6

مشروع بناء برامج تعويضية

لصعوبات تعلم المواد الدراسية للاجئين السوريين

لبنان - الأردن - تركيا (الداخل السوري)

التطبيقات العملية باللغة الإنجليزية

لصعوبات تعلم الرياضيات للحد من الفاقد التعليمى لدى اللاجئين السوريين

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Topic (1): Signed numbers

Worksheet (1)

Write the integer number that express of the following cases:

- ✓ The patient`s temperature increased by two degrees ----------
- ✓ Hani drew from his bank 5000 pounds ----------
- ✓ Hady spent 420 pounds ----------
- ✓ The price of the T.V decreased by 400 pounds ----------

Worksheet (2)

Underline the negative numbers:

(34, - 15, 0, 19, - 7, - 78, 54, 20, - 35)

Worksheet (3)

Complete the following by using the numerical axis:

- The smallest positive integer number is ----------
- The greatest negative integer number is ----------
- The greatest non – positive integer number is ----------
- The smallest non – negative integer number is ----------

Worksheet (4)

Complete the following by using the numerical axis:

- The number that comes after 7 is ------ and the number that comes before 7 is -------

- The number that comes after -5 is ------ and the number comes before -5 is -------

Worksheet (5)

Compare by using >, < or = in the following:

3 ---------- -4

-5 ---------- -3

-17 ---------- -7

-4 ---------- 3

Worksheet (6)

Compare by using >, < or = in the following:

(A) -7 ----- -9 (B) 3 ----- -13 (C) -4 ----- zero

(D) 30 ------ 103

Worksheet (7)

Complete the following by using the numerical axis:

- The integers that greater than -2 are ----------
- The integers that less than 4 are ----------
- The integers located between -2 and 5 are ----------
- The integers located between 5 and -1 are ----------

Worksheet (8)

Arrange the following numbers in a decreasing order:

(5, -2, 3, -7, 9, 6, -4)

Worksheet (9)

Arrange the following numbers in an increasing order:

(14, -5, -6, 4, 8, -12, -7)

Worksheet (10)

Write the integers that are included between the following integer numbers:

A) -4 and 2

B) -1 and 5

C) -7 and zero

Worksheet (11)

Write the integer numbers that come before and after the following numbers:

A)-9

B) 13

C) 23

D) zero

Worksheet (12)

Arrange the following integer numbers:

A) 6, -6, 2, -17, -22 (in an increasing order)

B) 1, -11, 3, -1, -8, 0 (in a decreasing order)

Worksheet (13)

The integer numbers that are included between -2 and 5 = ----------

A	B	C	D
5	6	4	-6

Topic (2): Addition and subtraction of signed numbers

Worksheet (1)

1.Calculate the following:

91 + 73 = --------	**-45 + 54 = ----------**	**43 + 89 = ---------**
-96 + 36 = -------	**-49 + 86 = ----------**	**-85 + (-6) = --------**
27 – 85 = --------	**-88 – (-23) = ---------**	**99 – 51 = ----------**
-207 – 123 = ------	**-35 – (-231) = ---------**	

2. By using the numerical axis calculate the following:

-5 + 9 = ----------

-4 + (-7) = --------

7 – 3 = ----------

9 – (-4) = ---------

1. Samira wanted to buy a computer of price 372 dollars, she has 221 dollars. How much does Samira need to buy a computer?
Write the mathematical equation that express exact operation.

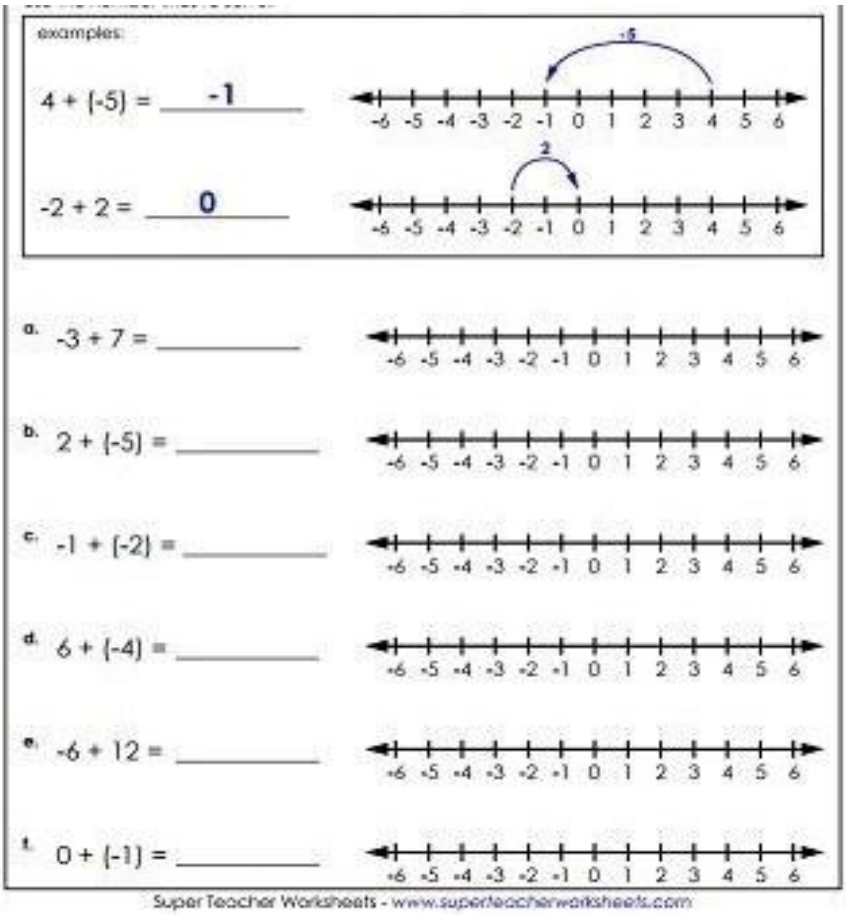
Worksheet (2)

Learning table

What do you know about addition and subtraction of ineteger numbers	How do you want to learn about addition and subtraction of integer numbers	What did you learn about addition and subtraction of integer numbers
Talk mathematically about your prerequist	Talk about expectations methods, pattern of your learning	Check what did you understand and how did you reach to your expecations
- You can speak orally to determine your past experiences, and the teacher notes them. The teacher helps the students to set their expectations. The teacher provides feedback to the students and provides them with activities and exercises during the course to achieve their goals in the current lesson. The teacher notices the wrong concepts or difficulties that appear at the stage of showing off previous experiences, therefore, it should be toleratedteaching methods in the next stages.		

Worksheet (3)

Complete as the following example then, find the sum



Worksheet (4)

1. Complete:

1)

+	−12	6
−3		
7		

2)

+	5	−2
−9		
−24		

3)

+	−14	−8
14		
1		

4)

+	−16	−5
−10		
−17		

5)

+	−7	0
21		
−11		

6)

+	13	−25
−1		
3		

7)

+	2	4
−13		
15		

8)

+	12	−6
−22		
9		

9)

+	−4	18
16		
8		

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Worksheet (5)

By using the numerical axis, calculate the difference:

1) 6 – 9 = ----------

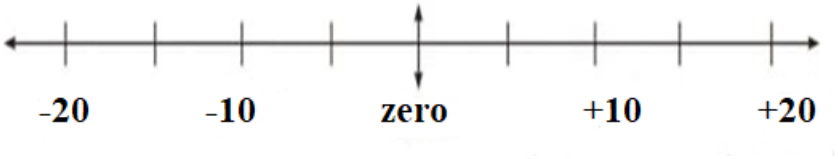
2) 21 – 5 = ----------

3) 16 - (-9) = ----------

4) – 17 – (-4) = ----------

5) – 15 – 8 = ----------

6) – 9 – (-14) = ----------



Worksheet (6)

Calculate the following:

1) (+5) - (+9) =

2) (-3) - (+8) =

3) (-7) - (0) =

4) (+3) - (+3) =

5) (+1) - (-9) =

6) (+6) - (+2) =

7) (+4) - (+7) =

8) (+9) - (+4) =

9) (-8) - (+4) =

10) (+4) - (0) =

11) (+4) - (-7) =

12) (-3) - (+1) =

13) (+9) - (0) =

14) (+3) - (+5) =

15) (-2) - (+3) =

16) (+9) - (-5) =

17) (-2) - (+2) =

18) (+7) - (+3) =

19) (+6) - (0) =

20) (+2) - (+5) =

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Worksheet (7)

1) - Khaled has 472 pounds and he had 377 pounds for debts, if he paid his debts, how many pounds will remain with Khaled?

Express that by using the addition and the subtraction operations.

2) - Walid wants to buy a car of price 4873 dollar and he had 2520 dollar, he wants to borrow from his father the remaining.

Express that by using addition and subtraction operations.

3) - Calculate the following by using addition and subtraction operations

(-2) + 6 =	(-4) - 4 =	9 - (-7) =
(-1) - 0 =	7 - 5 =	(-5) + (-10) =
(-1) - (-2) =	(-5) - (-6) =	9 - (-9) =
7 - 4 =	(-2) + 5 =	(-4) - (-10) =
8 - (-2) =	(-6) + 2 =	4 + 1 =

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Worksheet (8)

Use the pervious numerical axis to help you to calculate the difference of the following:

1)	3−7	=	21)	5− (-4)	=
2)	2−4	=	22)	(-4) −2	=
3)	8−9	=	23)	(-3) − (-3)	=
4)	4−8	=	24)	2− (-7)	=
5)	5−6	=	25)	(-6) − (-4)	=
6)	(-2) − 2	=	26)	(-2) − 7	=
7)	(-7) − 1	=	27)	0 − (-6)	=
8)	(-1) − 5	=	28)	(-4) − (-4)	=
9)	(-6) − 3	=	29)	3 − (-6)	=
10)	(-3) − 5	=	30)	(-3) − (-5)	=
11)	2 − (-3)	=	31)	(-6) − 3	=
12)	6 − (-2)	=	32)	(-5) − 5	=
13)	2 − (-4)	=	33)	1 − (-9)	=
14)	3 − (-6)	=	34)	0 − (-7)	=
15)	0 − (-5)	=	35)	(-8) − 2	=
16)	(-1) − (-2)	=	36)	(-3) − (-6)	=
17)	(-2) − (-3)	=	37)	2 − (-7)	=
18)	(-5) − (-1)	=	38)	(-6) − 4	=
19)	(-1) − (-4)	=	39)	(-1) − 7	=
20)	(-4) − (-3)	=	40)	(-5) − (-9)	=

Note: if you are subtracting a negative number, the two negative sign together will be substituted with positive sign.

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Worksheet (9)

A) Use the number line to help you to calculate the following:

1)	8 + (-4)	=	11)	5 + (-9)	=
2)	(-2) + (-3)	=	12)	(-2) + 7	=
3)	7 + (-5)	=	13)	(-6) + 10	=
4)	2 + (-4)	=	14)	8 + (-11)	=
5)	(-1) + 5	=	15)	(-3) + (-7)	=
6)	(-3) + (-4)	=	16)	5 + (-5)	=
7)	4 + (-6)	=	17)	(-8) + 6	=
8)	(-8) + 3	=	18)	6 + (-12)	=
9)	(-4) + (-4)	=	19)	(-9) + 11	=
10)	7 + (-9)	=	20)	(-6) + (-4)	=

B) Use two numbers from the box below so the following equations hold true.

-5	3	-8	1	-4	7	-2

1) ____ + ____ = -2
2) ____ + ____ = 1
3) ____ + ____ = -6
4) ____ + ____ = -9
5) ____ + ____ = -3
6) ____ + ____ = -10

7) Use two numbers from the box below so the following equations hold true.

____ + ____ = -7 ____ + ____ = -7 ____ + ____ = -7 ____ + ____ = -7

8) Use two numbers from the box below so the following equations hold true.

____ + ____ + ____ = -10

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Worksheet (10)

A) Use the number line to help you to calculate the following:

1) 8 + (-4) =
2) (-5) + (-6) =
3) 10 + (-7) =
4) 12 + (-3) =
5) (-1) + 11 =
6) (-7) + (-5) =
7) 11 + (-11) =
8) (-12) + 4 =
9) (-8) + (-4) =
10) 13 + (-9) =
11) 2 + (-15) =
12) (-13) + 7 =
13) (-16) + 10 =
14) 9 + (-13) =
15) (-8) + (-9) =
16) 12 + (-15) =
17) (-5) + 14 =
18) 16 + (-12) =
19) (-7) + 15 =
20) (-6) + (-9) =

B) Use two numbers from the box below to calculate the following:

-7	5	-4	0	-1	11	-9

1) ____ + ____ = -2
2) ____ + ____ = 1
3) ____ + ____ = -8
4) ____ + ____ = -9
5) ____ + ____ = 2
6) ____ + ____ = -11

7) Use 4 different methods to calculate the following:

____ + ____ = -4 ____ + ____ = -4 ____ + ____ = -4 ____ + ____ = -4

8) Choose 3 numbers from the box to this equation correct

____ + ____ + ____ = -11

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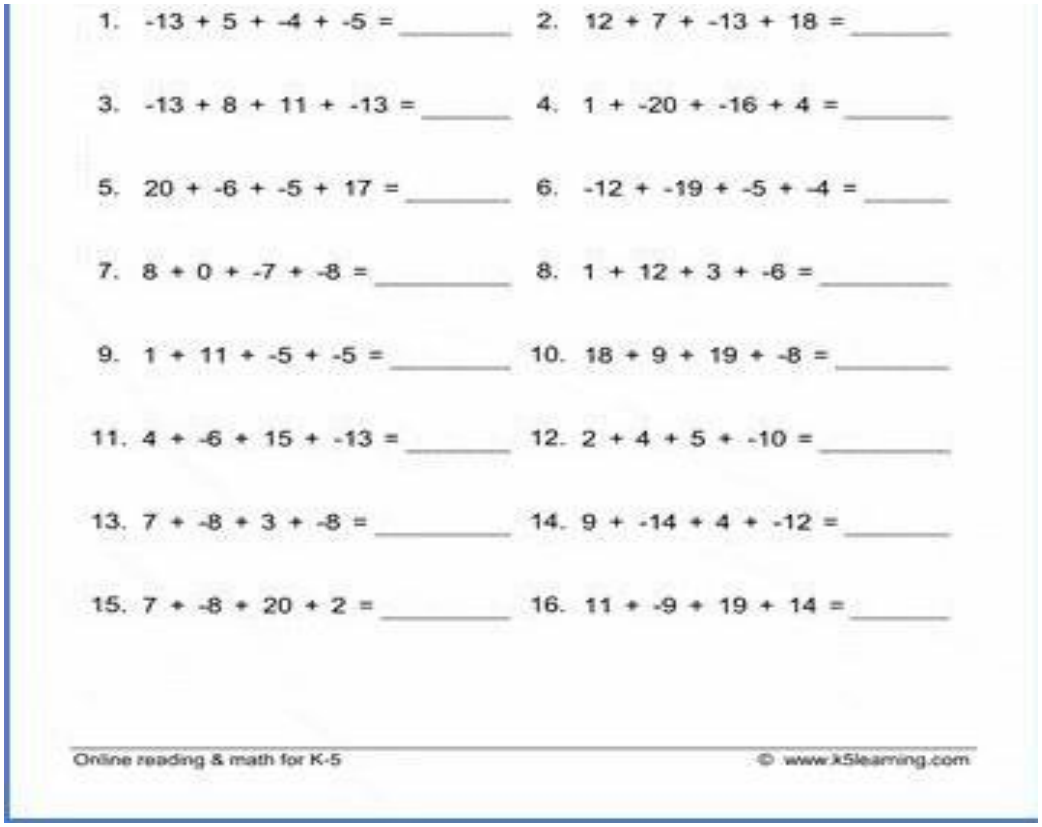
Worksheet (11)

Calculate the following:



1. -13 + 5 + -4 + -5 = _____
2. 12 + 7 + -13 + 18 = _____
3. -13 + 8 + 11 + -13 = _____
4. 1 + -20 + -16 + 4 = _____
5. 20 + -6 + -5 + 17 = _____
6. -12 + -19 + -5 + -4 = _____
7. 8 + 0 + -7 + -8 = _____
8. 1 + 12 + 3 + -6 = _____
9. 1 + 11 + -5 + -5 = _____
10. 18 + 9 + 19 + -8 = _____
11. 4 + -6 + 15 + -13 = _____
12. 2 + 4 + 5 + -10 = _____
13. 7 + -8 + 3 + -8 = _____
14. 9 + -14 + 4 + -12 = _____
15. 7 + -8 + 20 + 2 = _____
16. 11 + -9 + 19 + 14 = _____

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Worksheet (12)

A) Use the numerical axis to help you to calculate the following:

1. $5 + (-3) =$
2. $1 + (-5) =$
3. $(-1) + 8 =$
4. $(-1) + (-2) =$
5. $(-2) + 6 =$
6. $(-3) + (-3) =$
7. $(-4) + 4 =$
8. $1 + (-6) =$
9. $0 + (-7) =$
10. $(-2) + (-3) =$
11. $(-1) + 5 =$
12. $(-3) + (-4) =$
13. $(-8) + 3 =$
14. $(-2) + 7 =$
15. $(-8) + 6 =$
16. $(-9) + 11 =$

B) Use two numbers from the box below to calculate the following:

-7	5	-4	0	-1	11	-9

1) _____ + _____ = -2
2) _____ + _____ = 1
3) _____ + _____ = -8
4) _____ + _____ = -9
5) _____ + _____ = 2
6) _____ + _____ = -11

7) Use 4 different methods to calculate the following:

_____ + _____ = -4 _____ + _____ = -4 _____ + _____ = -4 _____ + _____ = -4

8) Choose 3 numbers from the box to this equation correct

_____ + _____ + _____ = -11

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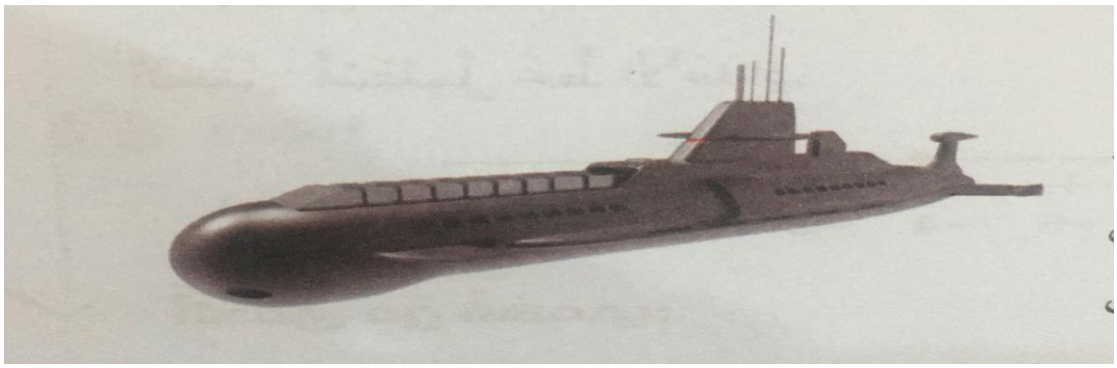
The topic (3): Multiplication and Division of signed numbers

Worksheet (1)

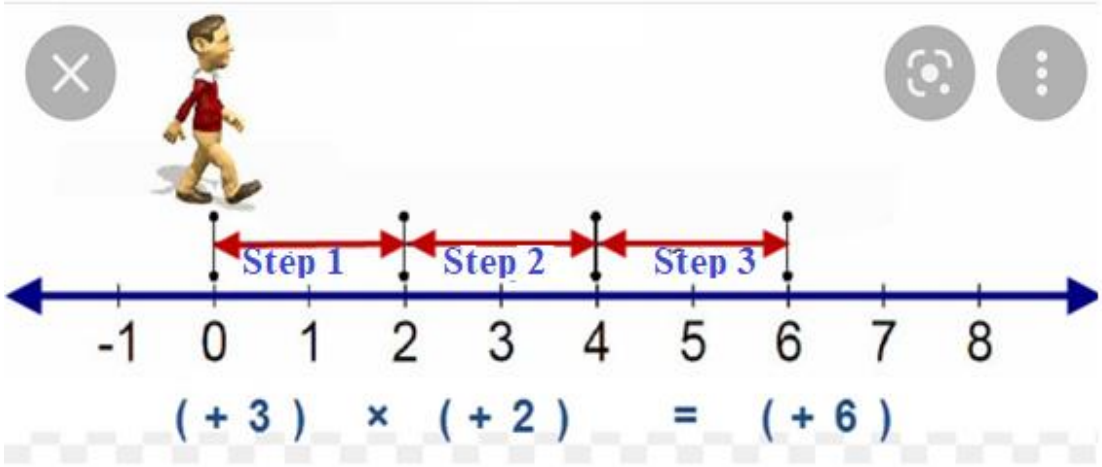
The submarine floated on the surface of the sea surface and then it began to sink to the bottom of the sea at a speed of 6m per minute.

At which depth will the submarine reach after 5 minutes if it sinks at the same speed?



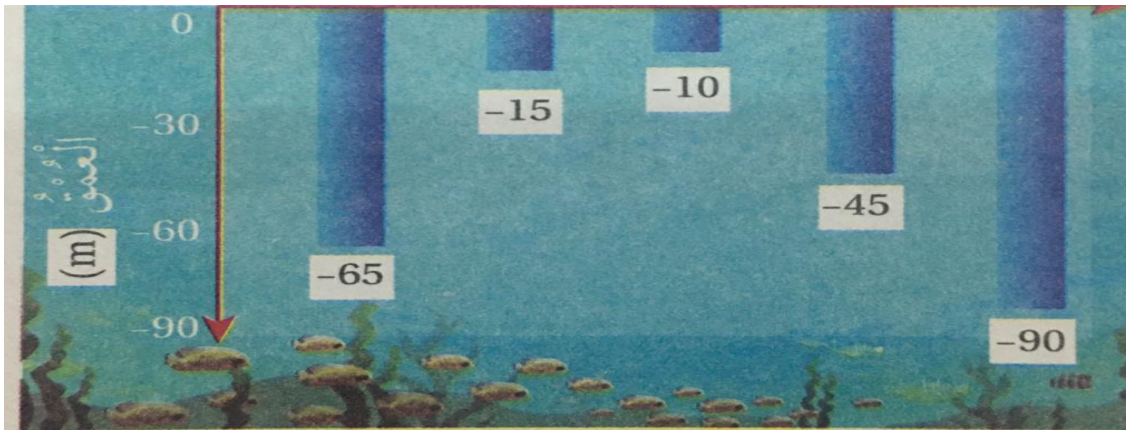
Worksheet (2)

Ali walked 3km in one day, how many kilometers did Ahmad walk after 3 days?



Worksheet (3)

The following figure, represents the approximate depths (in meters) in which some fish live. Calculate the mean for these depths.



$$\frac{(-65) + (-15) + (-10) + (-45) + (-90)}{5} = (\text{the mean})$$

Worksheet (4)

Calculate the following.

+ ÷ + = +	+6 ÷ +6 =
— ÷ — = +	-8 ÷ -4 =
+ ÷ — = —	+14 ÷ -2 =
— ÷ + = —	-18 ÷ +3 =

Worksheet (5)

Which one of the following is intruder?

-2 × (-5)

-8 (10)

1×9

-12(-6)

Which of the following products are equal?

3 × (-8)

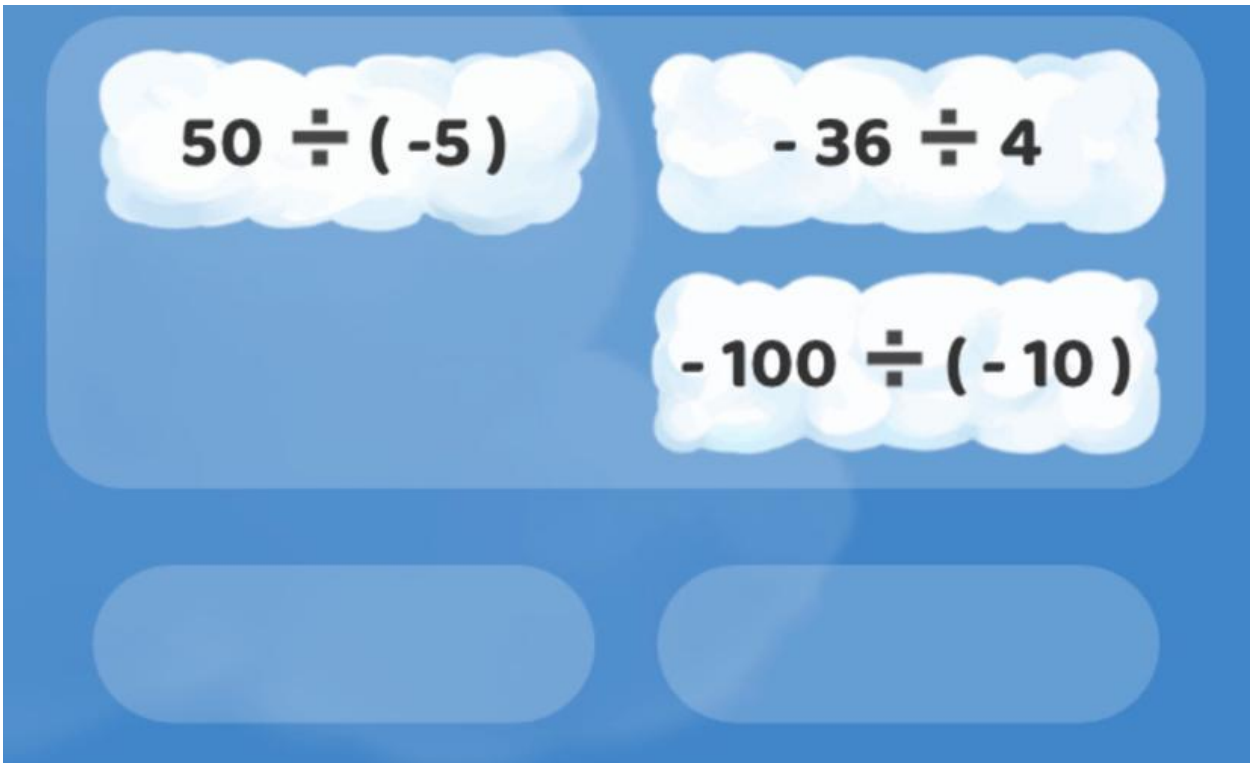
4 × 6

3 × 8

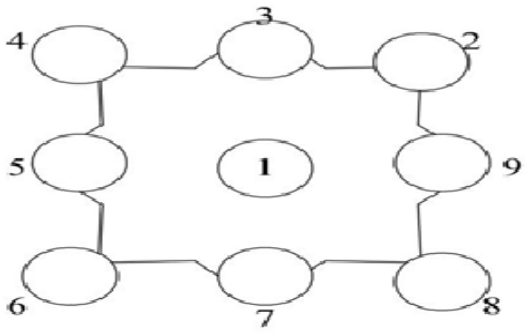
-4 × (-6)

Worksheet (6)

Calculate the following:



Worksheet (7)



Calculate the following, then write the answer in a circle that have the number of the question.

1) $3 \times -5 =$

2) $16 \times 3 =$

3) $-8 \times -7 =$

4) $24 \div 2 =$

5) $9 \times 2 =$

6) $-4 \times 7 =$

7) $6 \times -6 =$

8) $72 \div 9 =$

9) $-10 \times -2 =$

Worksheet (8)

Match each operation with the correct answer:

9 Times -6	**-125**
$(-5)^3$	**28**
4 × (-1) × (-7)	**-40**
5 × (-8)	**-54**

Worksheet (9)

Q1: Calculate the product of the following then choose the correct answer:

9 × (-10) = A) -90 B) -19 C) +19 D) +90	**-3 × 15 =** A) +45 B) -45 C) -18 D) +18
25 × (-2) = A) 17 B) -17 C) -50 D) 50	**-8 × (-4) =** A) -32 B) -12 C) 12 D) 32
-5 × (-2) × (-3) = A) -30 B) -10 C) +30 D) +10	$(-4)^2 =$ A) -16 B) +16 C) +8 D) -8

Worksheet (10)

The Division

Calculate the following

$$\frac{42}{-7}$$ Or **42 ÷ (-7) = ----------**

Worksheet (11)

Choose the correct answer:

1) The quotient of two negative numbers is a ---------- number

Positive Negative

2) (-15) ÷ (-3) =

-5 11 +3 +5

3) (18) ÷ (-3) =

-5 11 +3 +5

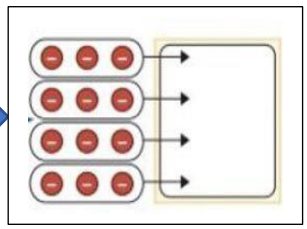
4) Indicate the intruder in the following:

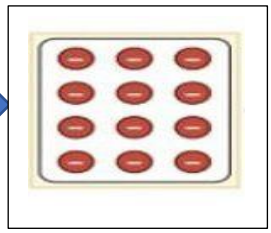
-66 ÷ 11 -32 ÷ (-4) 16 ÷ (-4) -48 ÷ 4

Worksheet (12)

We have four groups such that each group contains three negative pieces.

Four groups, in each group there are three negative pieces.





Answer

12 negative pieces or -12

1) Write a mathemetical expression that describes the above.

calculate the product in each of the following cases by using the counting pieces or representations:

2) 3 × (-2) **3) 4 × (-3)** **4) 1 × (-7)** **5) 5 × (-2)**

Worksheet (13)

Choose the correct sign in the following:

Positive × Negative = Positive Negative

Negative × Negative = Positive Negative

Negative × Positive = Positive Negative

Put each of the following answers in their suitable place:

-8	48	-273	+75
+7	25	-12	-35

(-36 ÷ 12) × 4 = ____ -1 × 273 = ____

40 ÷ -5 = ____ -42 ÷ -6 = ____

25 × 3 = ____ -6 × (72 ÷ -9) = ____

100 ÷ 4 = ____ -7 × 5 = ____

Worksheet (14)

Question One: Fill in the blanks from the box below

(Commutative property – Not commutative - Commutative)

1) The addition and multiplication operations of the integers is a ----------

2) The subtraction and division operation of the integers is a ----------

3) The name of the property that used to check this operation:

$(12 \times -10) = (-10 \times 12)$ is called ----------

Worksheet (15)

From the pervious, we conclude that:

- The product of any positive number by any negative number is a negative number.
- The product of any negative number by any positive number is a negative number.
- The product of any negative number by any negative number is a positive number.
- The product of any positive number by any positive number is positive number.

Example **Calculate the product of the following:**

1) $5 \times (-4)$, 2) $(-6) \times 7$, 3) $(-9) \times (-8)$

Worksheet (16)

Question one: Fill in the blanks

1) When we multiply 2 different signed numbers the sign of the product is always ----

2) Negative integer number × positive integer number = integer number of sign ----

Question Two: Calculate the product of the following

1) 1 × 5 =

2) 12 × -3 =

3) 6 × 4 =

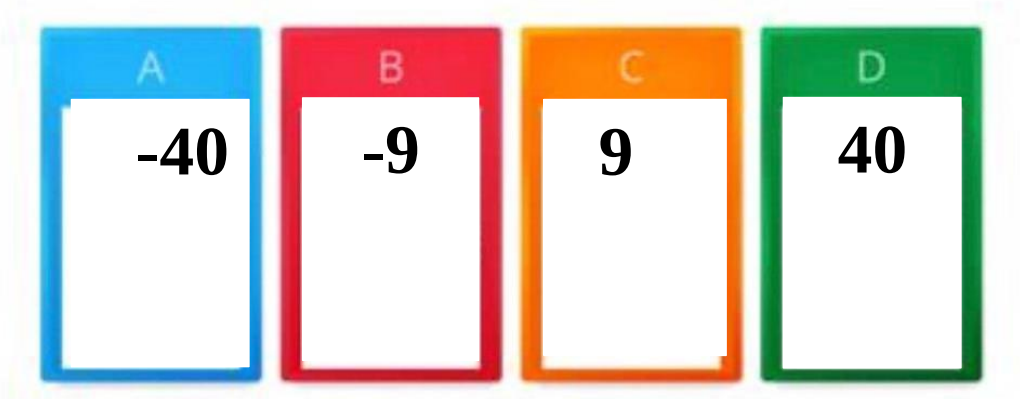
4) -8 × 13 =

5) -15 × 26 =

6) 5 × -10 =

Worksheet (17)

45 ÷ (-5) =



Worksheet (18)

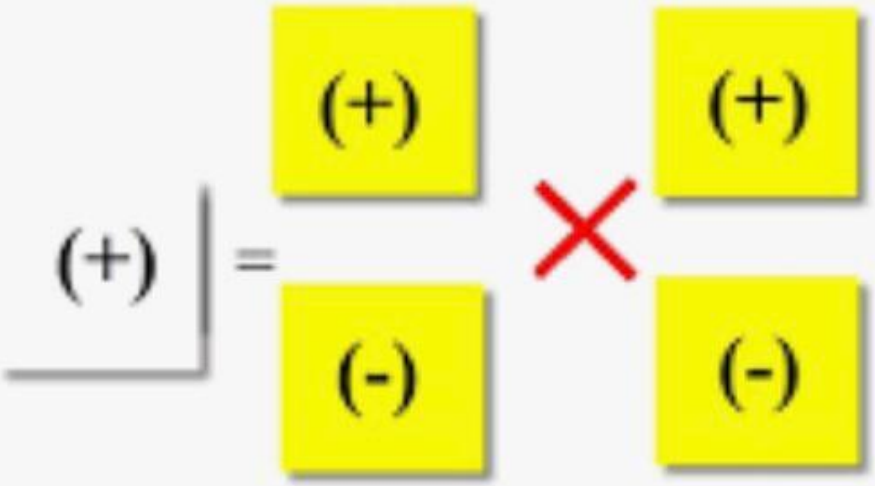
$$-8 \div 2 =$$

+4 **A**	-4 **C**
-16 **B**	16 **D**

Worksheet (19)

$$(-3) \times (-10) =$$

Worksheet (20)

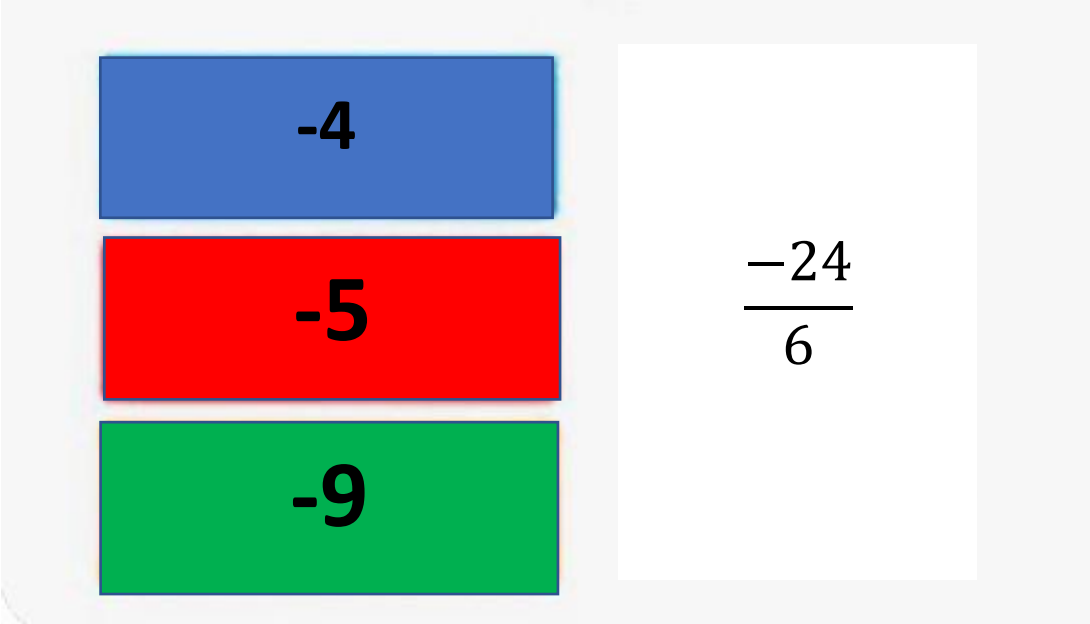


The product of same signs is = Positive

The product of different sings is = Negative

Worksheet (21)

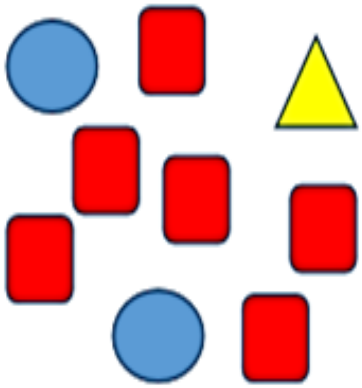
Calculate the quotient



The topic (5): The ratio

Worksheet (1)

Observe the adjacent figure, then find:



. The ratio of the squares to the triangles =

. The ratio of the circles to the squares =

. The ratio of the triangles to the squares =

Worksheet (2)

There are 2 chocolate cupcakes and 1milk chocolate.

. Write the ratio of chocolate cupcakes to the milk chocolate.

. Write the ratio of the milk cupcakes to the chocolate cupcakes.

Worksheet (3)

Observe the following forms:

. Choose the correct answer:

What is the ratio of the blue parts to the orang parts in their simplest form?

a. 1 : 2

b. 2 : 5

c. 1 : 3

d. 2 : 3

e. 2 : 1

Worksheet (4)

Write the following ratio as fraction in the simplest form:

a. **8 : 24 =**

b. **12 : 24 =**

c. **8 : 32 =**

d. **12 : 48 =**

e. **5 : 10 =**

f. **8 : 14 =**

g. **14 : 26 =**

h. **12 : 20 =**

Worksheet (5)

Write the following ratio as a fraction in the simplest form:

	The ratio of books to pens	The ratio of books to pens
	The ratio of balls to cars	The ratio of balls to cars as a fraction in the simplest form:
	The ratio of ice cream to cup cakes	The ratio of ice-cream to cup-cakes as a fraction in the simplest form:
 The price of shoes = 150 The price of the hat = 100	The ratio of hat price to shoes price	The ratio of hat price to shoes price as a fraction in the simplest form

Worksheet (6)

In the school library:

The ratio of Science books to English books was 450 : 300

The ratio of Math books to Science books was equal to the ratio of Science books to English books.

Calculate the number of math books, knowing that the number of math books *s*.

Worksheet (7)

In a farm that has only ducks and rabbits:

The ratio of the number of rabbits to the number of ducks was 16 : 9

The total number of ducks and rabbits is 300.

How many ducks are in the farm?

Worksheet (8)

To prepare 20 pieces of cupcake, we need 2 eggs.

How many eggs do we need to prepare 100 pieces of cupcakes?

	The number of cupcakes	The number of eggs
Small quantity	20	2
Large quantity	S	100

Worksheet (9)

Complete the following table, then determine if each one is a ratio or not:

The ratio	Extremes	Means	Ratio ✓ or not ✖
$\frac{7}{28} = \frac{1}{4}$			
$\frac{1}{3} = \frac{2}{6}$			
$\frac{6}{15} = \frac{2}{6}$			
$\frac{20}{28} = \frac{5}{7}$			

Worksheet (10)

In a cinema, 16 tickets for kids and 34 tickets for adults were sold.

What is the ratio of the number of kid tickets to the number of adults tickets?

Worksheet (11)

1. The ratio of the mother age to her daughter's is 6 : 2.
If her daughter is 14 years old, how old is the mother?

2. Maya has two big cats and 8 small cats.
Compare between the number of big cats and the number of small cats.

3. Juice sales were noted on Saturday as shown in the table below:

Write the ratio of the number of lemon juice to the total number of juice sold.

Type of juice	Sold quantity
Orange juice	3
Strawberry juice	6
Carrot juice	7
Blueberry juice	8

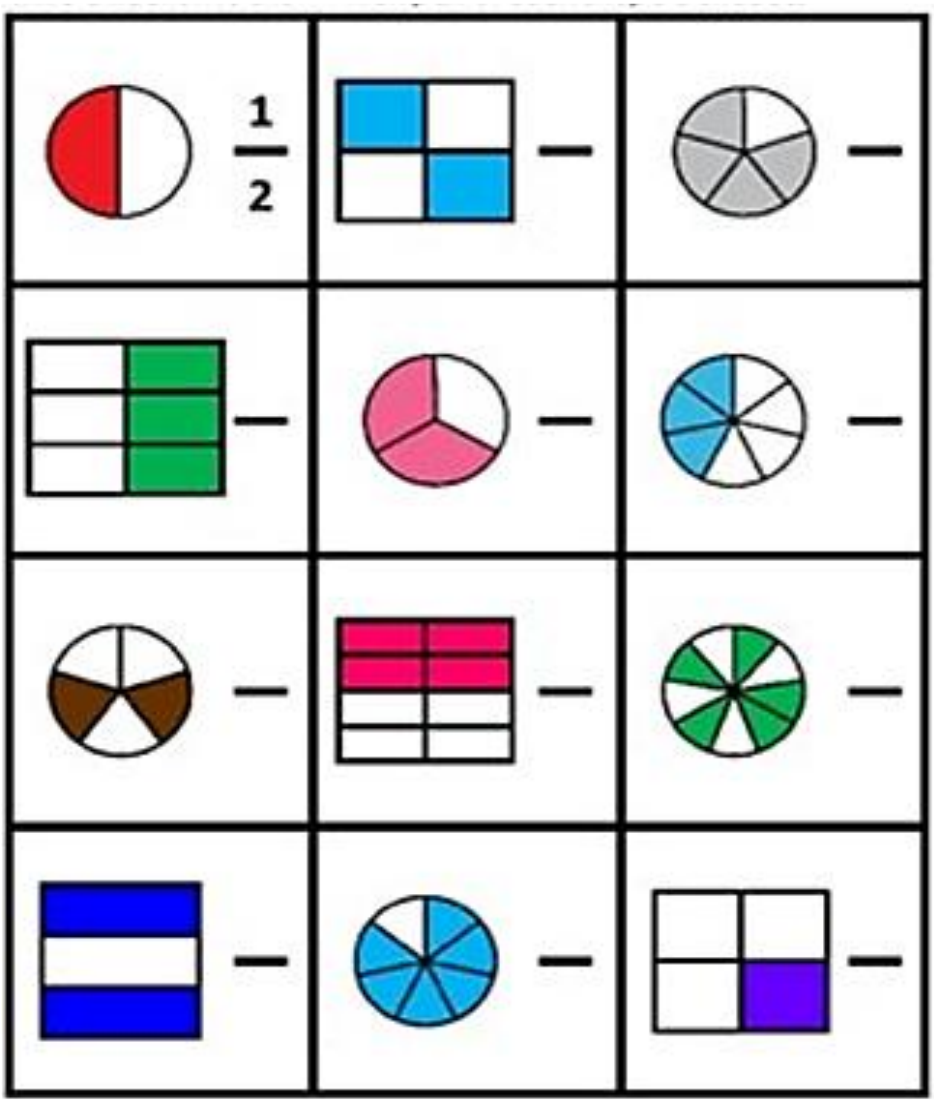
4. Hiba wants to divide a box containing 28 pieces of juice into two groups, of a ratio of 3 : 4

Calculate the number of juice in each group.

Topic (5): Proportion

Worksheet (1)

Write the fraction that represents the colored parts, then determine the equivalent fractions:

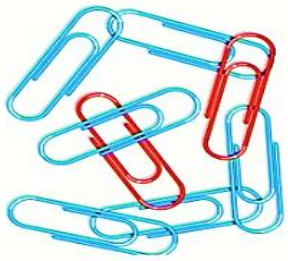


Worksheet (2)

Definition of Ratio: It is the comparison between two quantities that have the same unit using division, and is often written in the simplest form.

Based on the ratio definition, solve the following parts:

In the adjacent figure, there are paper clips, two are red and are blue.



1. Write the ratio that represents the number of red clips to the number of blue clips in the simplest form.

Ratio of the red clips to number of blue clips: $\frac{\square}{\square} = \frac{\square}{\square}$

2. Write the ratio that represents the number of red clips to the total number clips in the simplest form.

Ratio of the red clips to the total number of clips: $\frac{\square}{\square} = \frac{\square}{\square}$

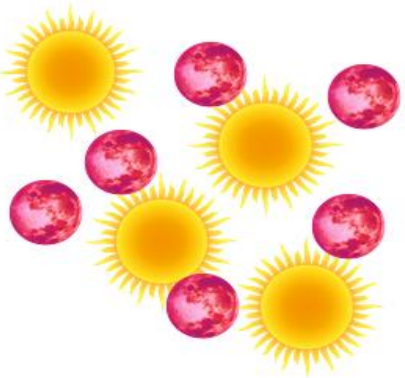
3. Write the ratio that represent the number of blue Clips to the total number clips in the simplest form.

Ratio of the blue clips to the total number of clips: $\frac{\square}{\square} = \frac{\square}{\square}$

Worksheet (3)

Solve the following problems:

1. Write the ratio between compares the numb of stickers of suns to the number of stickers of moons in the simplest form.



.....

.....

2. The following table shows the number of sold birds during a week in a bird store.
What is the ratio of the number of sold pigeons to the total number of sold birds?

Bird type	number of sold birds
Nightingale	10
Goldfinch	9
Pigeons	8
Falcon	7
Seagull	2

.....

.....

Worksheet (4)

Average: It is a ratio comparing two quantities with two different units, and when the rate is simplified so that its denominator is 1, it is called the unit rate.

1. Complete:

a. Kilometer: It is a unit of ……

b. Hour, minute and second: It is a unit of ……

c. Kilogram: It is a unit of ……

2. If you know that a car travels 360 km in 3 hours, how much does the car travel in 1 hour at this speed?

Solution steps:

. Write the ratio of the distance covered by the car to the needed time $\frac{\square}{\square}$

. Simplify the fraction

. The obtained result represents the unit average.

3. Write each ration in its simplest form:

a. 9000 LBP for 3 cakes: ……

b. 25 meters per 2 seconds: ……

Worksheet (5)

Ratio: It is a comparison between two quantities that have the same unit, and is often written in its simplest form.

Average: It is a ratio comparing two quantities with two different units, and when the rate is simplified so that its denominator is 1, it is called the unit rate.

1. Choose the correct answer:

a. Rami has 5 chickens and 15 pigeons.
What is the ratio of the number of pigeons to the number of chickens?

3	5	15

b. 18 000 for 6 cubes is written as unit of rate:

18	3	6

c. Kinan travels 30 km in 15 minutes with his car.
What is the average of what Kinan travels with his car in one minute?

$\frac{30}{15}$	$\frac{15}{30}$	$\frac{2}{1}$

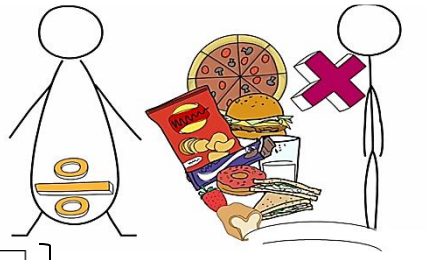
2. Link:

On a school trip, 4 boys and 16 girls went with the teacher, so, the ratio of the number of boys to the number of girls is:	5
25 meters in 5 seconds is written as a unit rate:	$\frac{1}{4}$
Haneen's heart beats 410 times in 5 minutes. How many times does it beat per minute?	82

Worksheet (6)

. Are the following ratios (fractions) equivalent? Justify.

$\frac{1}{2}$; $\frac{4}{8}$; $\frac{5}{10}$; $\frac{6}{12}$; $\frac{8}{16}$



. $\frac{1}{2} = \frac{4}{8} = \frac{5}{10} = \frac{6}{12} = \frac{8}{16}$ because

$\frac{1}{2} = \frac{8 \div 8}{16 \div 8}$
$\frac{1}{2} = \frac{6 \div 6}{12 \div 6}$
$\frac{1}{2} = \frac{5 \div 5}{10 \div 5}$
$\frac{1}{2} = \frac{4 \div 4}{8 \div 4}$

So, these ratios are equivalent

. Are $\frac{3}{5}$ and $\frac{9}{15}$ equivalent ? Justify your answer.

. If you know that a proportion is equal to two or more ratios.

. Is there a proportion between $\frac{3}{5}$ and $\frac{9}{15}$?

Yes, there is a proportion because they are equivalent.

Worksheet (7)

Fadi paid 10,000 LL to print two photos, then paid 30,000 LL to print 6 photos.

The number of printed photos	2	6
Their prices (in L.L.)	10	30

1. Express the number of images and the total cost in each situation as an average in fractional form, using the table**:**

situation 1: $\frac{\text{the price (in L.L.)}}{\text{the number of photos}} = \frac{\ldots\ldots}{\ldots\ldots}$

situation 2: $\frac{\text{the price (in L.L.)}}{\text{the number of photos}} = \frac{\ldots\ldots}{\ldots\ldots}$

2. Compare the numerator of the fractions in the part 1, then deduce the relation between them, after that, compare the denominators of the above fractions and deduce the relation between them.

……
……

3. Are the fractions equivalent? Justify your answer.

……
……

Worksheet (8)

Solve the following problems:

1. Mona read 60 pages of a book in 3 days, then she read 120 pages in 6 days.

a. Prove that there is a proportionality between the two ratios of the two readings?

……
……

b. Find the two extremes and the two means.

……
……

2. Souad made 30 necklaces for ten of her friends, while Hanan made 12 necklaces for her eight friends.
Is there a proportion between the two ratios? Explain your answer.

……
……

Worksheet (9)

1. Define:

a. The ratio**:** ……

b. The proportion**:** ……

c. The average**:** ……

2. Choose the correct answer**:**

a. Karim bought a bicycle for 200 000 LBP and then he sold it for 240 000 LBP. The ratio of profit to purchase price is:

$\frac{240000}{200000}$	$\frac{40000}{200000}$	$\frac{40000}{240000}$	$\frac{200000}{240000}$

b. A water tap pours 420 liters in 7 minutes, the average of pouring per minute
equals:

6 liters \ 7 minutes	60 liters \ minutes	2940 liters \ 7 minutes	2940 liters \ 7 minutes

3. Are the quantities in each pair of the following ratios equivalent or not? Explain, and express each proportional relation as a proportion.

a. Scoring 16 goals in 4 matches and scoring 48 goals in 8 matches.

b. Printing 96 words in 3 minutes and printing 160 words in 5 minutes.

c. 12 out of 30 students prefer the green color, and 48 out of 120 prefer green color.

Worksheet (10)

1. In the library, the pen is sold for 5000 L.B.P.

a. How many pens can be bought with 20000 L.B.P?
And with 25 000 L.B.P?

.....

.....

b. Write the ratio of 3 pens and their cost using the table.

.....

c. Write the ratio of 3 pens and their costs.

.....

Number of pens	The price (in L.B.P.)
1	5000
2	10 000
3	15 000

d. Write a proportion expressing the relation between the cost of 3 pens and the cost ***x*** of 7 pens.

.....

e. Calculate the cost of the seven pens using the following proportional. Justify your answer.

$$\frac{\square}{s} = \frac{\square}{\square}$$

2. Solve the following proportion:

$\frac{4}{7} = \frac{x}{35}$ $\frac{x}{16} = \frac{7}{8}$ $\frac{k}{8} = \frac{6}{16}$

Dear student, remember that:

The solution of the proportionality is to find the unknown value.

Worksheet (11)

Find the unknown in the following, parts 4,5,6 are ratio:

1. $\frac{b}{3} = \frac{25}{15}$

2. $\frac{s}{28} = \frac{3}{4}$

3. $\frac{2}{s} = \frac{8}{12}$

4. 7, r, 35, 10

5. 2,5, h, 15

6. s, 4, 10, 8

Worksheet (12)

1. A horse drinks about 120 bottles of water every 4 days.
How many bottles of water does this horse drink in 28 days, according to this average?

.....
.....

2. Solve the following equations:

a. $\frac{n}{9} = \frac{2}{3}$

b. 3, 4, s, 20

.....
.....
.....
.....

Worksheet (13)

. Indicate the extremes and the means of each of the following.

. Then check whether each of the following is proportional or not, using multiplication Criss Cross.

a. $\frac{9}{15} = \frac{3}{5}$

b. $\frac{3}{28} = \frac{1}{8}$

c. 24, 8 ,72, 24

d. 2, 7, 4, 14

e. 3, 4, 5, 12

Worksheet (14)

Solve each of the following proportions using the rule:

$$\boldsymbol{product\ of\ extremes} = \boldsymbol{product\ of}\ means$$

a. $\frac{25}{15} = \frac{b}{3}$

b. 2, 5, h, 15

c. s, 4, 10, 8

Worksheet (15)

If 84 cakes are enough to feed 28 children, how many cakes are enough to feed 30 children?
Express the previous question in proportion.

.....
.....
.....
.....

Worksheet (16)

Proportionality: It is an equality between two or more ratios

To prepare a jug of diluted orange juice, mix a content of concentrated can of orange juice with three water bottles.

a. How many cans of concentrated orange juice and how many bottles of water do you need to make two jugs?

.....

b. How many cans of concentrated orange juice and how many bottles of water do you need to make three jugs of diluted orange juice? Justify.

.....

c. Find the ratio in the simplest form between the amount of each of the concentrated juice and the water needed to make a jug of diluted orange juice, then 2 jugs, then 3 jugs. what do you notice?

.....

d. Dear student, observe the table then make sure that your answer is correct**:**

Concentrated juice can	1	2	3
Water bottle	3	6	9

Note that the ratios $(\frac{1}{3}, \frac{2}{6}, \frac{3}{9})$ are equivalent.

Worksheet (17)

The following table is a proportionality table, that represents a price of a certain type of pens:

$5 \times$	Number of pens	2	3	5	….
	Their price (in LBP)	10	15	…	35

$\div 5$

a. How much does 1 pen cost?

……

b. Find the ratio of price of the first column to the second column, then determine the coefficient of proportionality.

……

……

……

c. Complete the table.

……

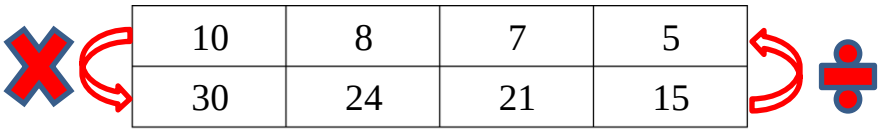
d. Using the coefficient of proportionality, calculate the number of pens if their price is 80 LBP.

……

……

Worksheet (18)

Find the coefficient of proportionality of the following table:



10	8	7	5
30	24	21	15

.....

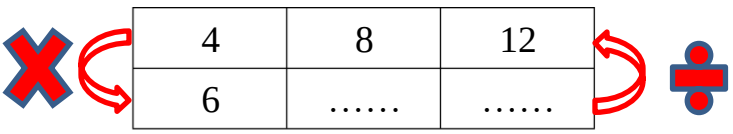
.....

.....

Worksheet (19)

The following table is a proportionality table:

Find the coefficient of the proportionality table;
Complete the table.



4	8	12	
6	.....	.....	

.....

.....

.....

Worksheet (20)

A patient takes 1 liter of water every 8 hours.

Use the proportionality table to find the number of hours that the patient would need to take 4 liters of water by the same average.

Quantity of fluid (in liter)	1	4
Number of hours (per hours)	8	s

.....

.....

.....

Worksheet (21)

The following table is a proportionality table, find the value of s.

4	16
8	**s**

.....

.....

.....

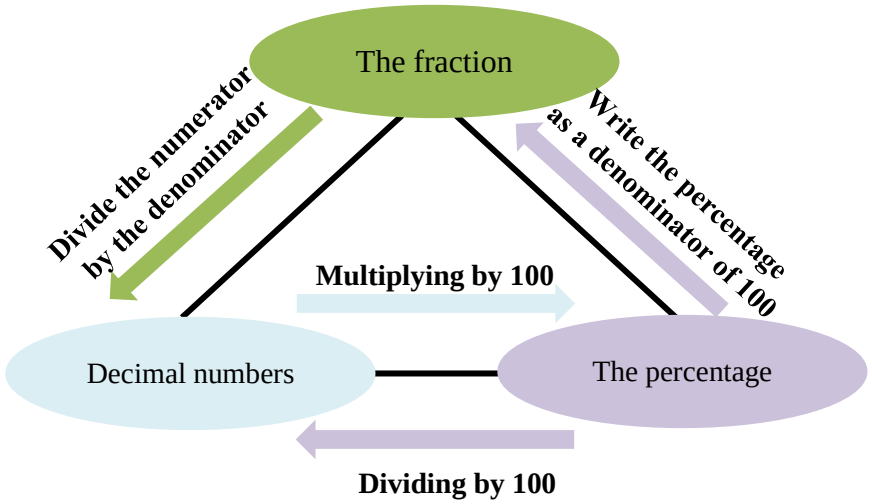
The topic (6): Percentage

Worksheet (1)

Write the decimal number as a percentage:

1)	0.35 =	21)	0.52 =
2)	0.72 =	22)	0.619 =
3)	0.24 =	23)	0.4 =
4)	0.6 =	24)	0.827 =
5)	0.392 =	25)	1.42 =
6)	0.91 =	26)	1.3 =
7)	0.8 =	27)	1.27 =
8)	0.138 =	28)	2.56 =
9)	0.46 =	29)	5.3 =
10)	0.5 =	30)	3.25 =
11)	0.76 =	31)	0.726 =
12)	0.328 =	32)	1.726 =
13)	0.124 =	33)	0.2375 =
14)	0.612 =	34)	4.81 =
15)	0.95 =	35)	3.67 =
16)	0.4 =	36)	2.9 =
17)	0.127 =	37)	0.318 =
18)	0.58 =	38)	4.17 =
19)	0.932 =	39)	3.915 =
20)	0.666 =	40)	8.328 =

Worksheet (2)



Fraction	Decimal number	Percentage form
½		
¾		
	0.6	
		80%
	0.25	
		10%
7/10		
	0.9	

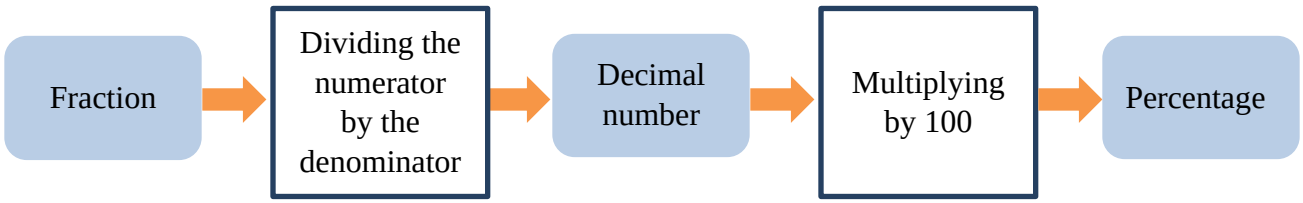
Worksheet (3)

Complete the following table:

Fraction	Decimal number	Percentage form
$\frac{1}{4}$	0.25	
$\frac{4}{5}$		
$\frac{7}{10}$		70%
	0.3	
	0.9	
	0.24	
		60%
		20%
		14%
$\frac{1}{8}$		
	0.79	
		86%
	0.36	
$\frac{3}{4}$		
	0.45	
		37.5%
$\frac{2}{3}$		

Worksheet (4)

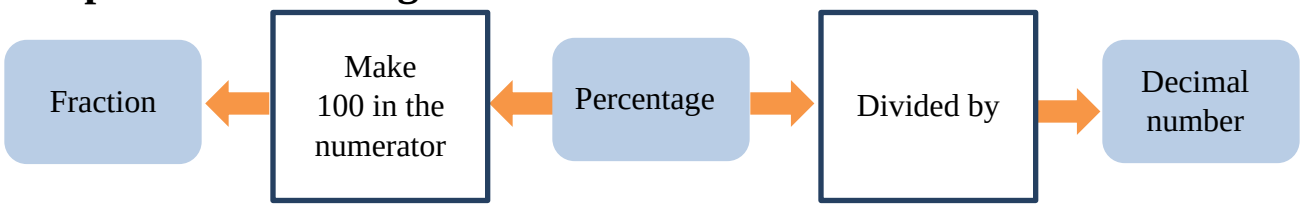
Complete the following table



Fraction	Decimal number	Percentage form
$\frac{1}{2}$		
$\frac{3}{4}$		
$\frac{2}{5}$		
$\frac{1}{8}$		
$\frac{7}{8}$		
$\frac{1}{4}$		
$\frac{7}{10}$		
$\frac{3}{10}$		
$\frac{1}{3}$		
$\frac{5}{6}$		
$\frac{2}{9}$		
$\frac{5}{4}$		
$\frac{3}{16}$		
$\frac{8}{5}$		

Worksheet (5)

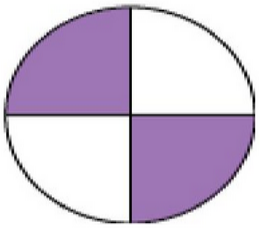
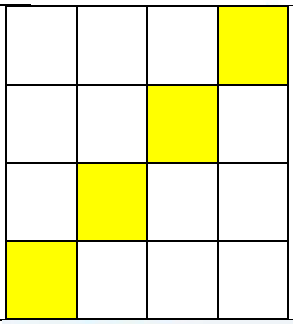
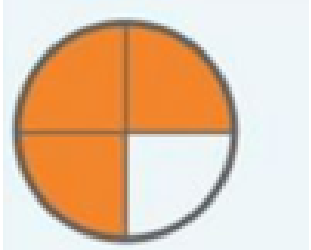
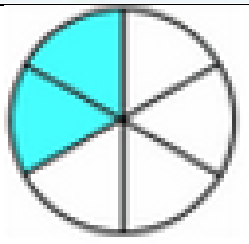
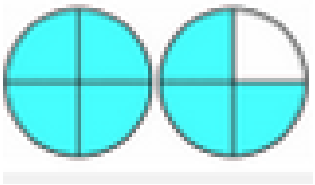
Complete the following table:



Percentage	Decimal number	Fraction
50%	0.5	½
10%		
100%		
25%		
80%		
30%		
75%		
32%		
53%		
29%		
14%		
3%		
65%		
112%		
135%		

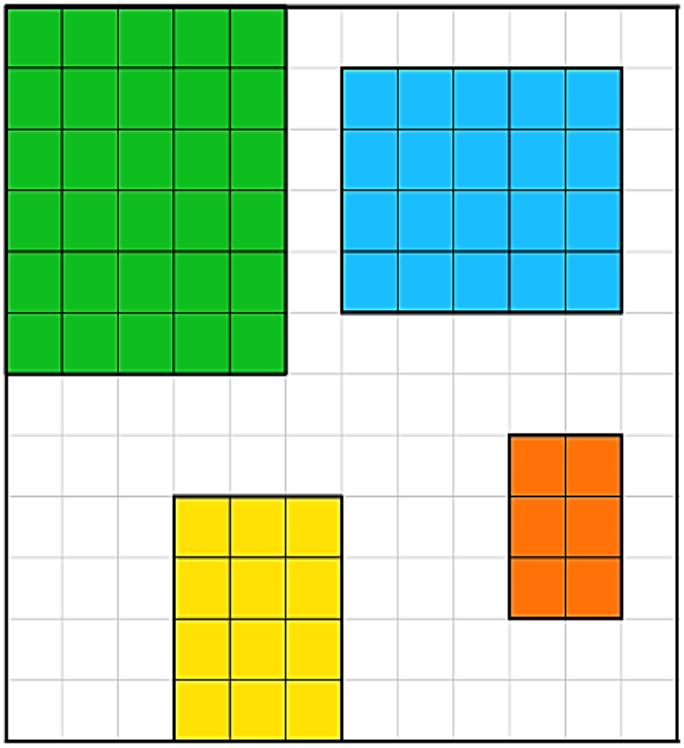
Worksheet (6)

By referring to each representation, complete the following table:

The representation form	The fraction that represents the colored parts	Decimal fraction	The percentage of the colored parts
			
			
			
			
			

Worksheet (7)

Observe the following figure, then find:



Observe the following figure, then find:

1. the percentage of yellow squares to blue squares.

2. the percentage of orange squares to blue squares.

The topic (7): The circle

Worksheet (1)

Given a circle of radius 7 cm.

Calculate the area of this circle, knowing that $\pi = \frac{22}{7}$.

Worksheet (2)

Given a circle of diameter 14 cm.

Calculate the area of this circle, knowing that $\pi = \frac{22}{7}$.

Worksheet (3)

Given a circle of perimeter 44 cm.

Calculate its area, knowing that $\pi = \frac{22}{7}$.

Worksheet (4)

Consider a circle of area 145 cm^2.

Calculate the length of its radius, knowing that $\pi = \frac{22}{7}$.

Worksheet (5)

Given a circle of area 314 cm^2.

Calculate its perimeter, knowing that $\pi = 3.14$

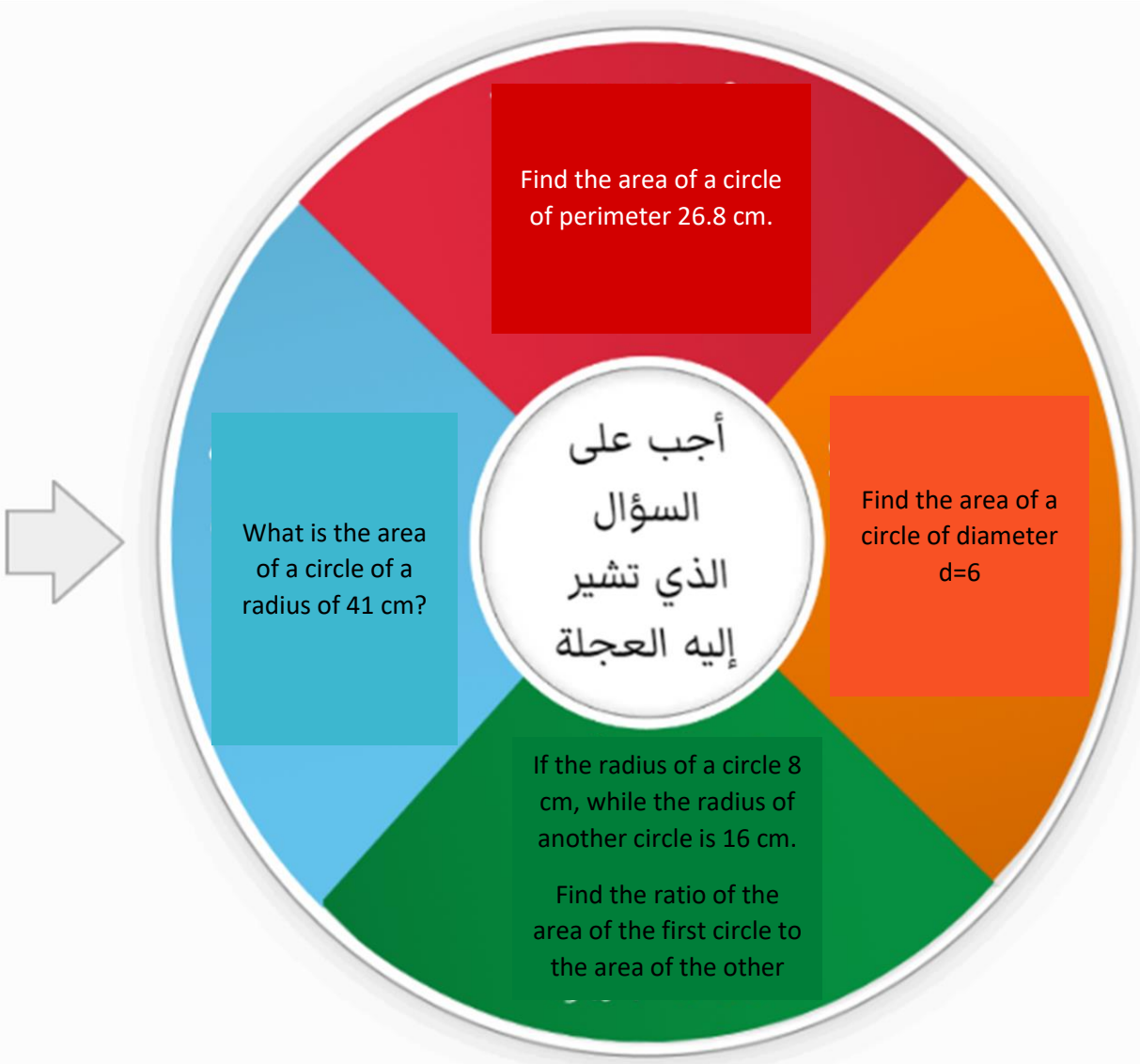
Worksheet (6)

Consider two circles, the first circle is of center O and of radius 4 cm

The second circle is of center N and of radius 7 cm.

Find the ratio of the area of two circles.

Worksheet (7)


Find the area of a circle of perimeter 26.8 cm.
أجب على السؤال الذي تشير إليه العجلة
What is the area of a circle of a radius of 41 cm?
Find the area of a circle of diameter d=6
If the radius of a circle 8 cm, while the radius of another circle is 16 cm.
Find the ratio of the area of the first circle to the area of the other

Worksheet (8)

The adjacent figure represents a semi-circle of center M.

If AM = 5 cm, calculate its area, knowing that

Worksheet (9)

The adjacent figure represents a quarter circle of center M.

If AM = 7 cm, calculate its area, knowing that

Worksheet (10)

Calculate the area of the circle,

If the area of the square is equal to 36 cm^2.

We take

Worksheet (11)

The following dining table has a circular shape,

it has a diameter of 1.5 cm.

We want to cover its surface with a glass cover,

(such that, the area of the surface of a table is equal

to the area of a glass cover).

Calculate the cost of this cover of glass, if the price of

1 meter is 60 pounds

Given:

Worksheet (12)

Calculate the area of the figure below, if AM = 7 cm.

Given:

Worksheet (13)

Calculate the area of the adjacent circle,

If the perimeter of the square is equal to 48 cm.

Given:

Worksheet (14)

Calculate the area of the circle,

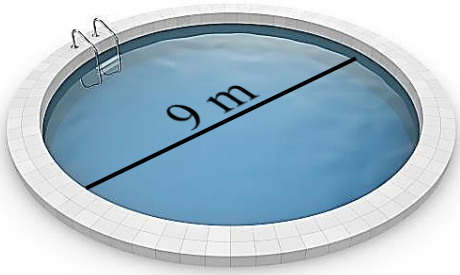
If the area of the square is equal to 36 cm^2.

Given:

Worksheet (15)

The floor of a circular swimming pool is painted in blue.

If you know that the diameter of the pool is 9 meters, what is the area of the painted part?



Worksheet (16)

Calculate the area of a circle of radius 10 cm.

Given:

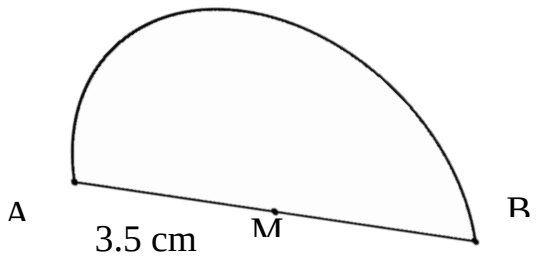
Worksheet (17)

The area of the adjacent circle is area 113 cm^2.

Calculate its perimeter, knowing that

Worksheet (18)

Calculate the area of the figure below:



Worksheet (19)

Consider the two circles, the first circle is of center O and of radius 5 cm

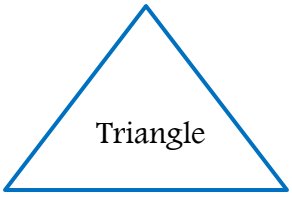
The second circle is of center N and of radius 9 cm.

Find the ratio between the areas of these two circles.

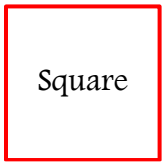
The topic (8): The angles.

Worksheet (1)

Complete:



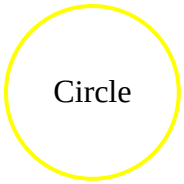
It has …… vertices
It has …… sides



It has …… vertices
It has …… sides

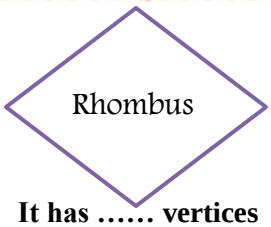
It has …… vertices
It has …… sides

It has …… vertices
It has …… sides



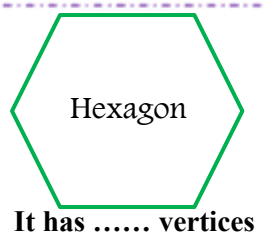
It has …… vertices
It has …… sides

It has …… vertices
It has …… sides



It has …… vertices
It has …… sides

It has …… vertices
It has …… sides



It has …… vertices
It has …… sides

Worksheet (2)

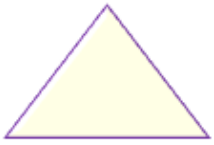
Classify the following shapes according to their properties:

It has 4 vertices
It has 4 sides
The shape is a ……

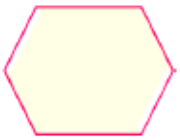
It has 4 vertices
It has 4 sides
The shape is a ……

It has 4 vertices
It has 4 sides
The shape is a ……

It has 5 vertices
It has 5 sides
The shape is a ……



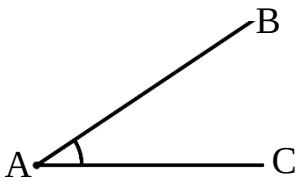
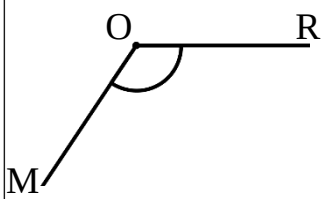
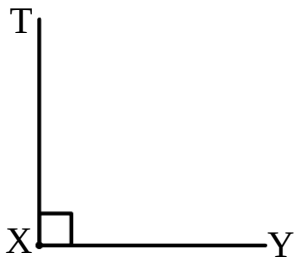
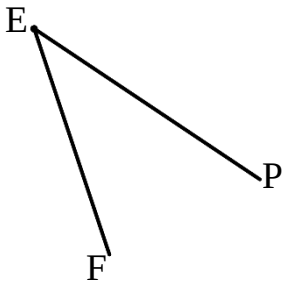
It has 3 vertices
It has 3 sides
The shape is a ……



It has 6 vertices
It has 6 sides
The shape is a ……

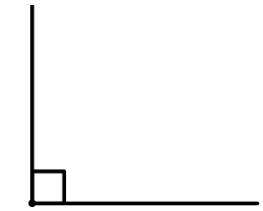
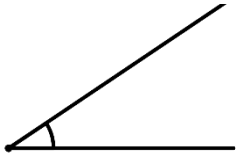
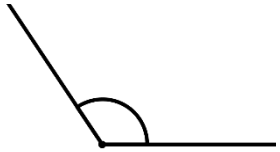
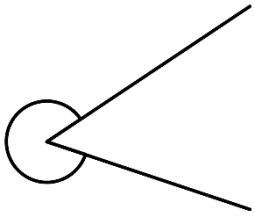
Worksheet (3)

Complete:

The angle	Its name	Its vertex	Its side
	$C\hat{A}B$ or $B\hat{A}C$ or $\hat{A}$		$[BA]$ or $[CA]$
	..... or ..... or	O	
	..... or ..... or		
	..... or ..... or		

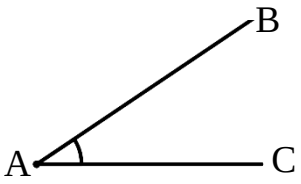
Worksheet (4)

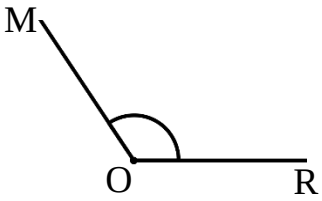
Complete the following table:

	Copy the angle	Draw a bigger angle	Draw a smaller angle
			
			
			
			
			

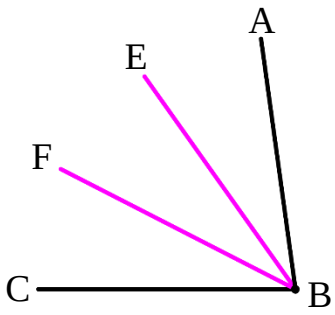
Worksheet (5)

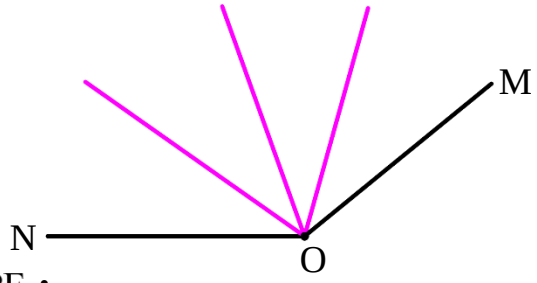
Compare the angles $B\hat{A}C$ and $M\hat{O}R$ according to the angle $P\hat{E}F$:





Observe and complete:





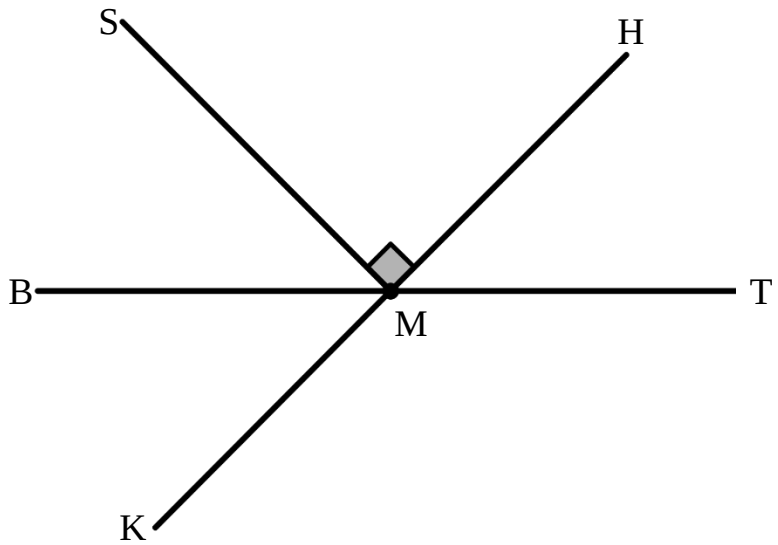
$C\hat{B}A$ **consists of …… parts of** $E\hat{B}F$ **;**

$N\hat{O}M$ **consists of …… part of** $E\hat{B}F$ **;**

So, $C\hat{B}A$ …… $N\hat{O}M$

Worksheet (6)

Observe the figure, then determine:



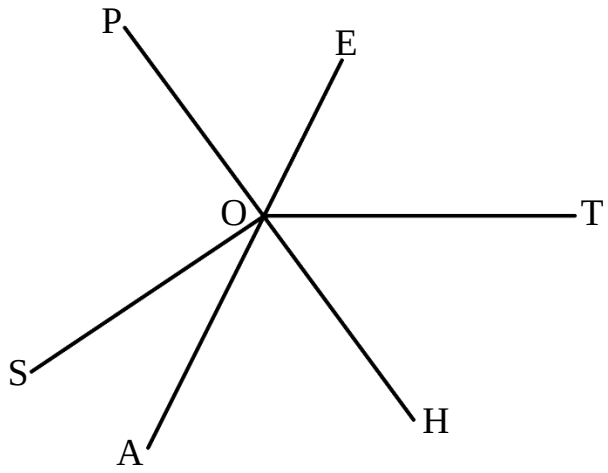
Two vertically opposite angles: ……

The adjacent angles: ……

……

Worksheet (7)

Observe the figure, then determine:



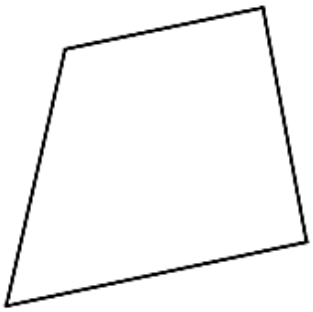
Two vertically opposite angles: ……

The adjacent angles: ……

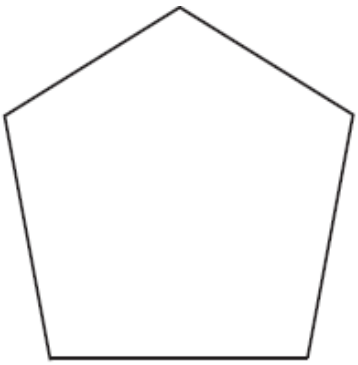
……

Worksheet (8)

Using a ruler and a pencil, to draw the exterior angles, in each polygon:



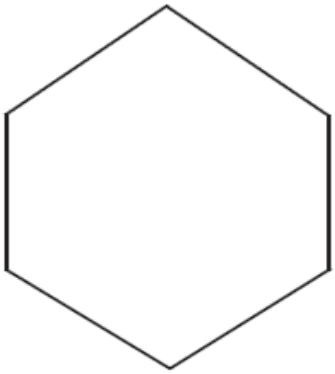
Quadrilateral shape



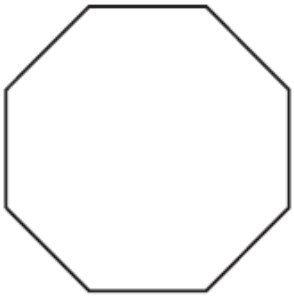
Pentagon

Worksheet (9)

Using a ruler and a pencil, to draw the exterior angles, in each polygon:



Hexagon



Octagon

Worksheet (10)

Complete:

The triangle	Measure of its angles			Sum of angles
	60°	60°	60°	
	30°	60°	90°	
	50°	60°	70°	
	110°	40°	30°	

1. What is the sum of angles in each triangle?

……

……

2. Write a conclusion about the sum of angles in a triangle.

……

3. Does the sum of angles of a triangle change, if its angles change?

……

……

4. Can a triangle have angles of measure: 82º, 65º or 33º?

……

……

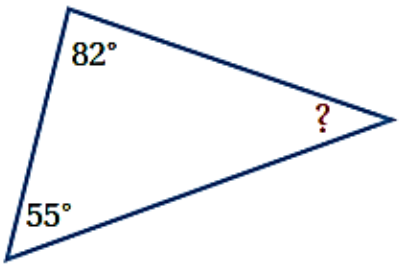
5. Does the angles of measures 40º, 80º, 70º can be angles of a triangle?

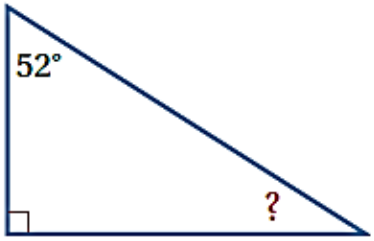
……

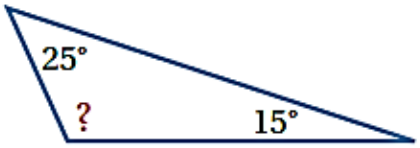
……

Worksheet (11)

Calculate the missing angle in each triangle:



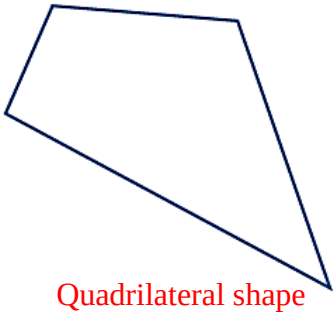




Worksheet (12)

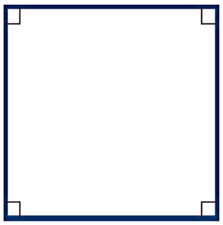
By using a ruler and a pencil:
Divide each quadrilateral into 2 triangles.
Then, find the sum of angles in each quadrilateral.

……
……



Quadrilateral shape

……
……



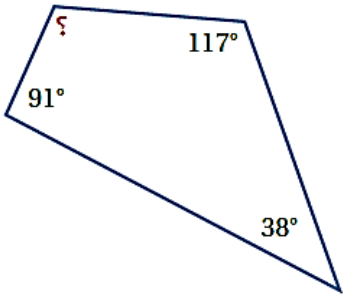
Square

……
……

Parallelogram

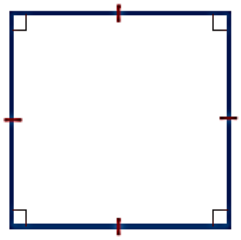
Worksheet (13)

If you know, that the sum of angles in a quadrilateral is 360º. Complete:



The measure of the missing angle in the quadrilateral= …… º

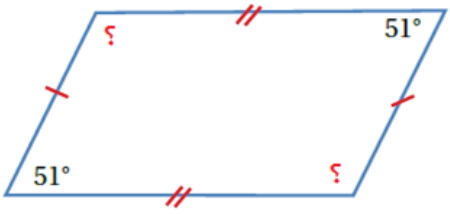
The sum of angles in a square =…… + …… + …… + …… = …… º



360º – (……. + ……) = …….

……. ÷ 2= ……

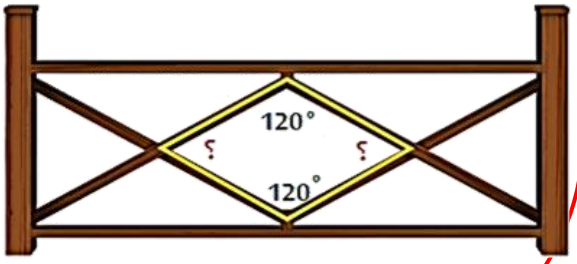
The measure of the missing angle in the parallelogram =…… º



360º – (……. + ……) = …….

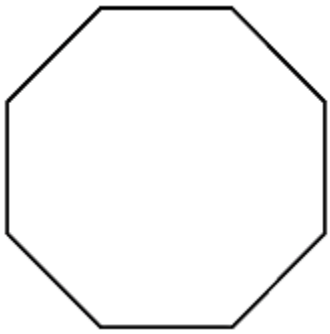
……. ÷ 2= ……

The measure of the missing angle in the rhombus =…… º



Worksheet (14)

Observe the octagon:



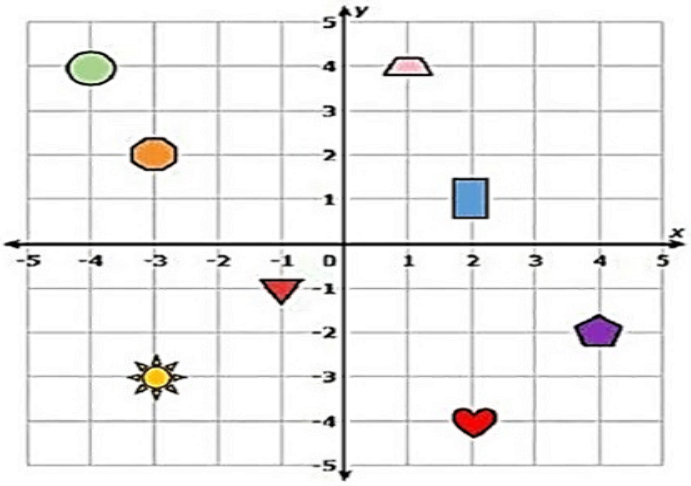
Use a ruler and a pencil to divide the octagon into a quadrilateral shape, then complete:

Sum of angles in an octagon = …… °

The topic (9): Locating a point

Worksheet (1)

Find the coordinates of each form:



(,)

(,)

(,)

(,)

(,)

(,)

(,)

(,)

Worksheet (2)

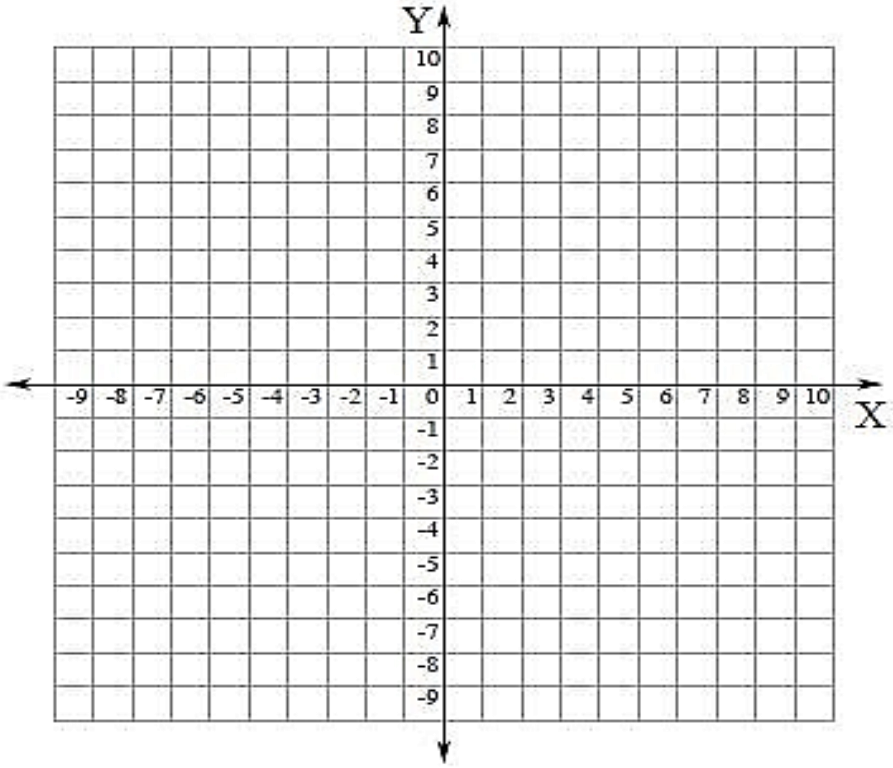
Learning schedule

What do you know about locating a point in the orthogonal system?	What / How do you want to learn the locating a point in an orthogonal system	What did you learn about locating a point in the orthogonal system?
Check your understanding and get to what you expected	Talk about expectations and your learning style	Talk mathematically about the previous experiences

- You can speak orally to determine your past experiences, and the teacher notes them.
- The teacher helps the students to set their expectations.
- The teacher provides feedback to the students and provides them with activities and exercises during the course to achieve their goals in the current lesson.
- The teacher notices the wrong concepts or difficulties that appear at the stage of showing off previous experiences, therefore, it should be toleratedteaching methods in the next stages.

Worksheet (3)

Determine the x-axis, y-axis, positive direction and negative direction on the orthogonal system:



Worksheet (4)

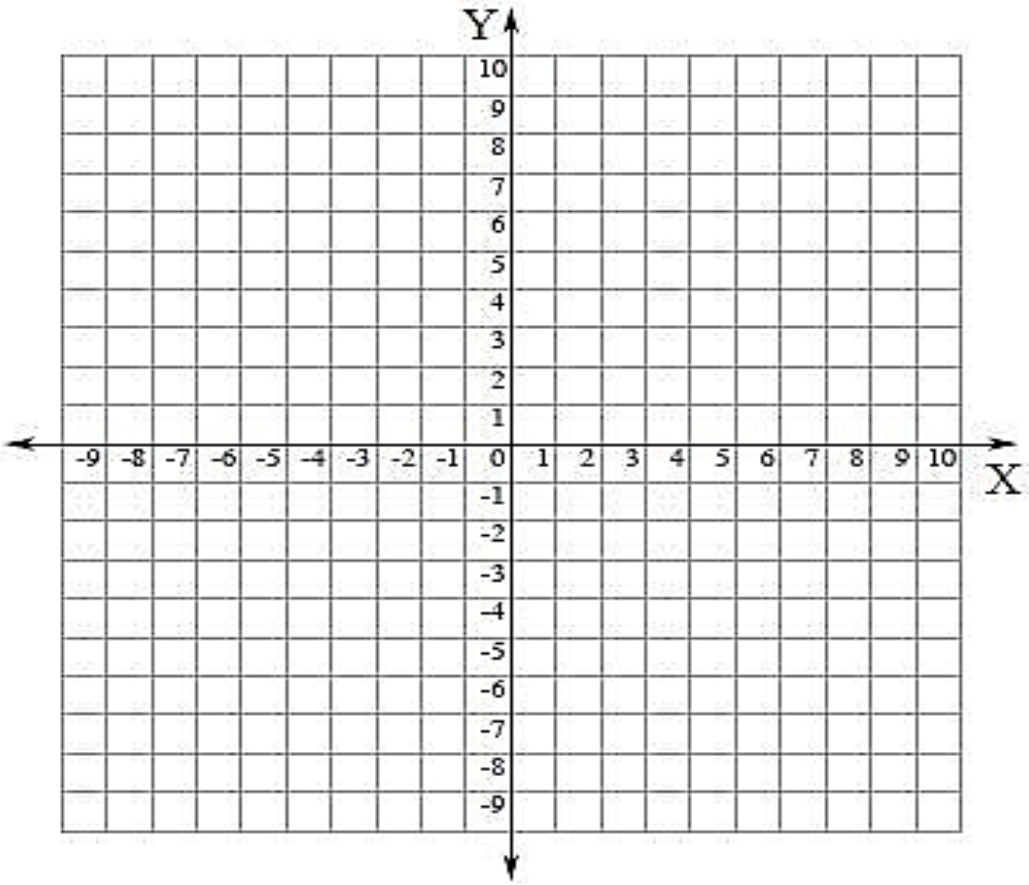
Construct an orthogonal system and specify the positive direction, negative direction, x-axis and y-axis.

Worksheet (5)

Locate the following points on the orthogonal system:

A (6 ; 5) **B (− 5 ; 2)** **C (1 ; 1)** **D (− 2 ; − 1)**

K (2 ; − 3) **H (5 ; 0)** **N (0 ; 2)**

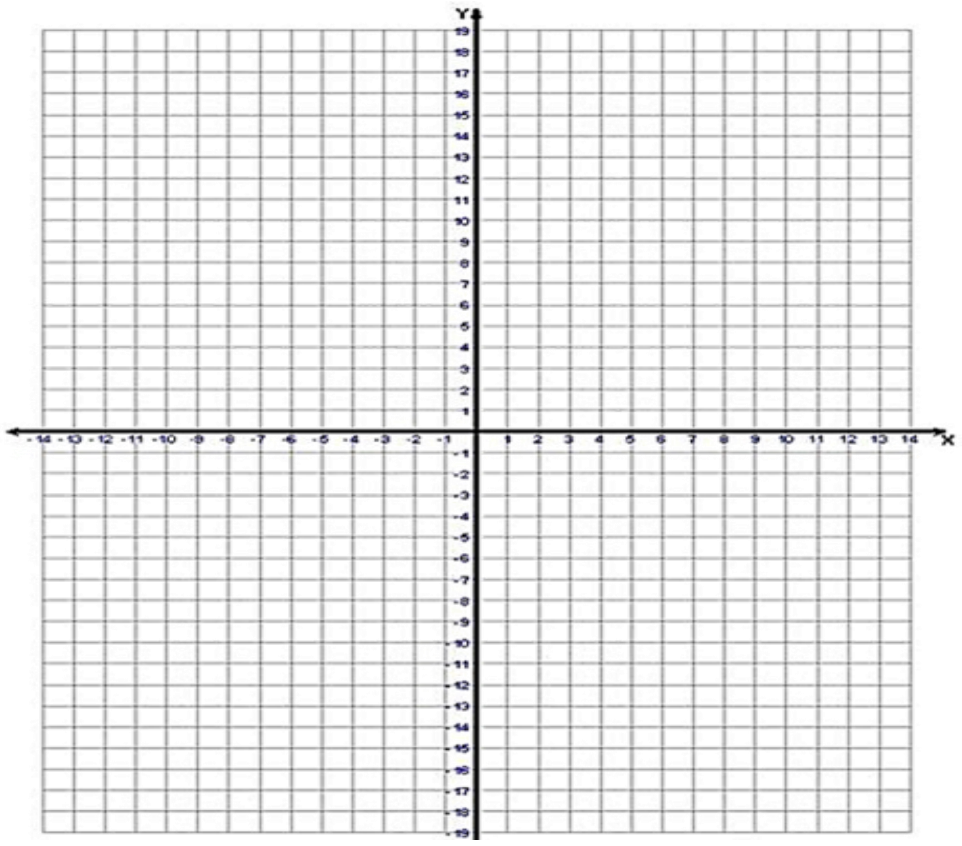


Worksheet (6)

Draw the following segments, on the orthogonal system:

[AB]: A (5 ; 3) and B (– 4 ; 2)

[NH]: N (– 1 ; – 7) and H (4 ; – 3)

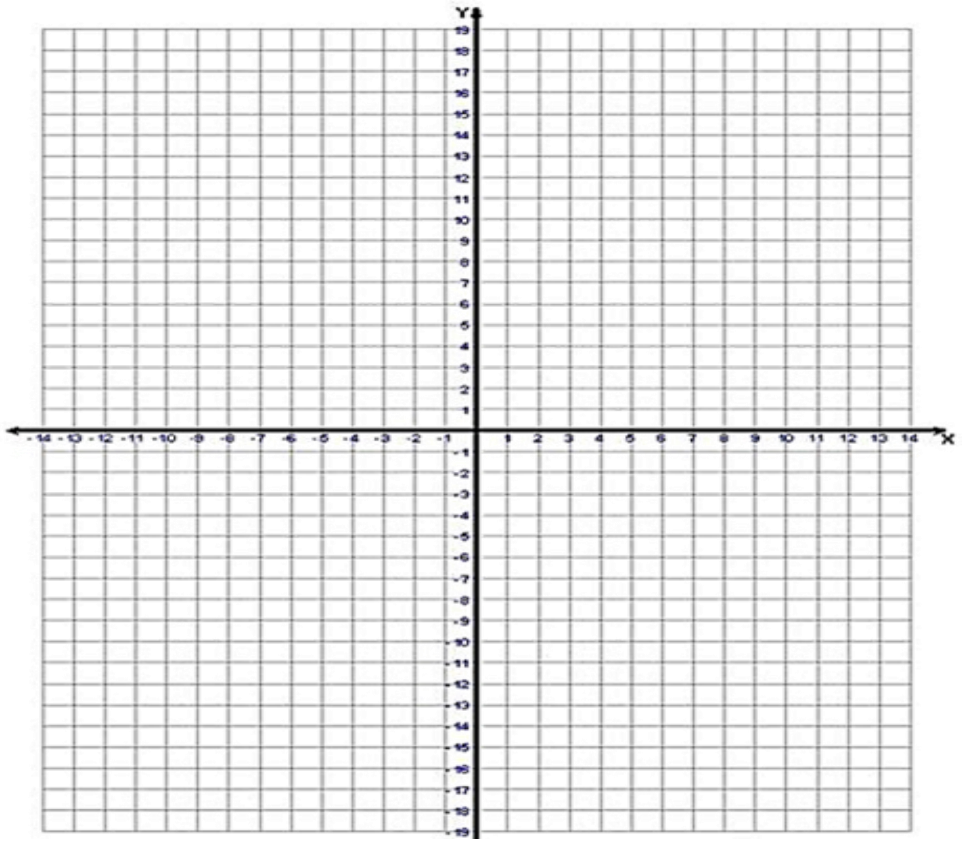


Then join the geometric shape ABNH.

Worksheet (7)

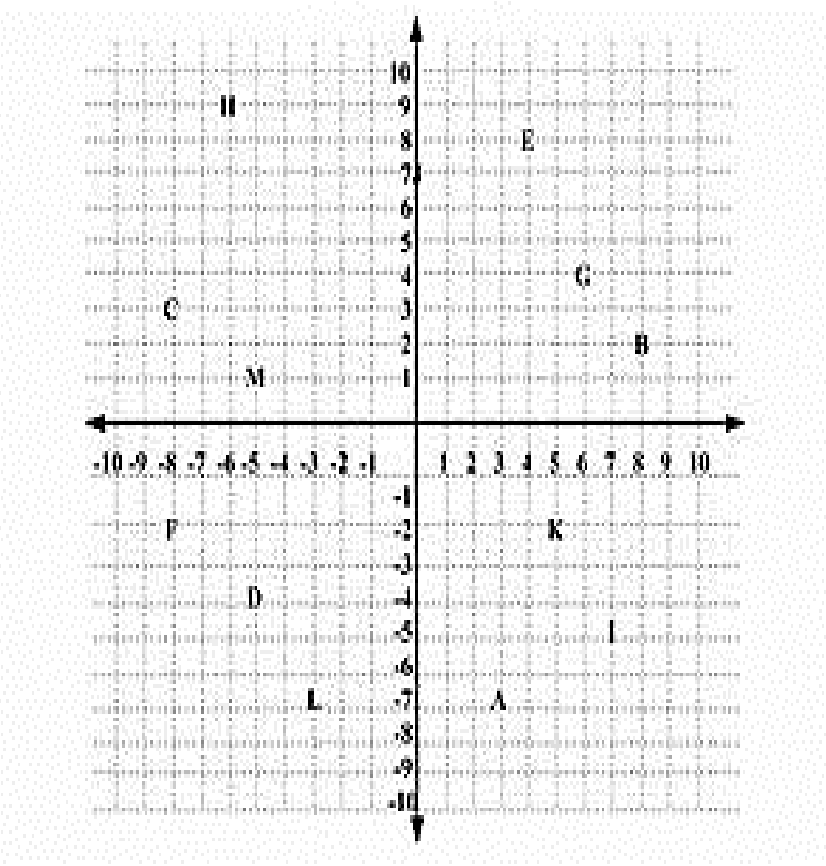
Find the area and the perimeter of the geometric shape DOKL where:

D (3 ; 3) O (– 3 ; 3) K (– 3 ; – 3) and L (3; – 3)



Worksheet (8)

Find the coordinates of each point:

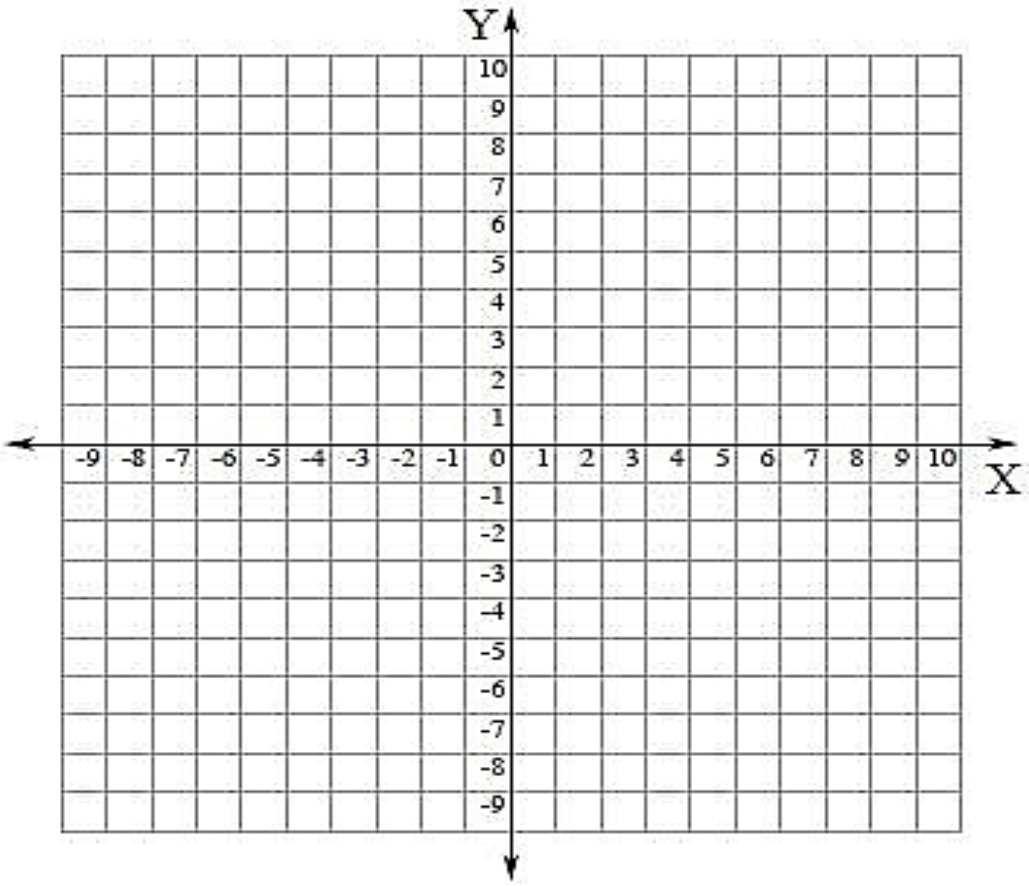


Worksheet (9)

Locate the following points on the orthogonal system:

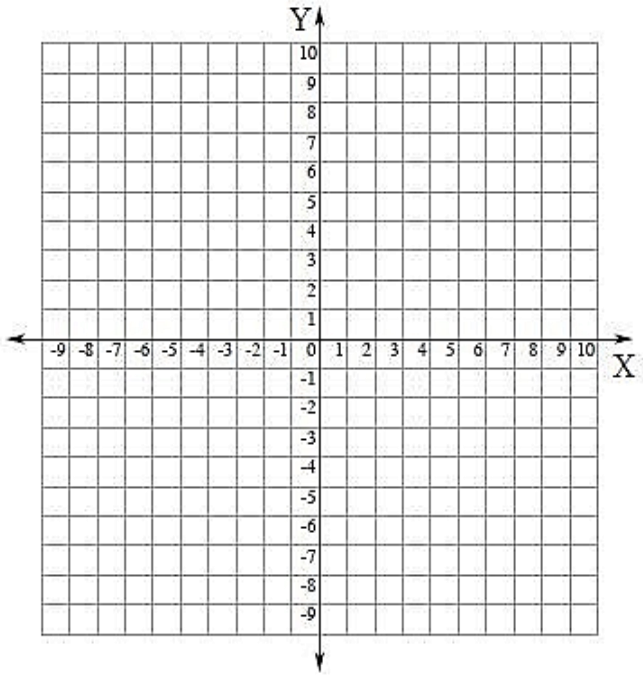
A (– 4 ; 2) **B (4 ; – 2)** **C (– 5 ; 5)**

D(– 2 ; 5) **E (–3 ; – 4)** **F (5 ; – 2)**



Worksheet (10)

Observe the following orthogonal system:



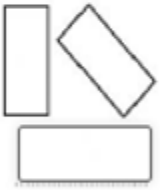
1. Construct a square ABCD of side 3 cm.

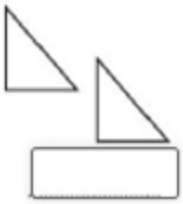
The topic (10): Geometric Transformations

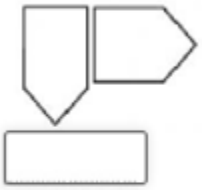
Worksheet (1)

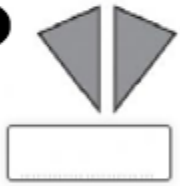
Specify the type of geometric transformations in the following: (Rotation, reflection and translation).

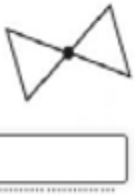
1 

2 

3 

4 

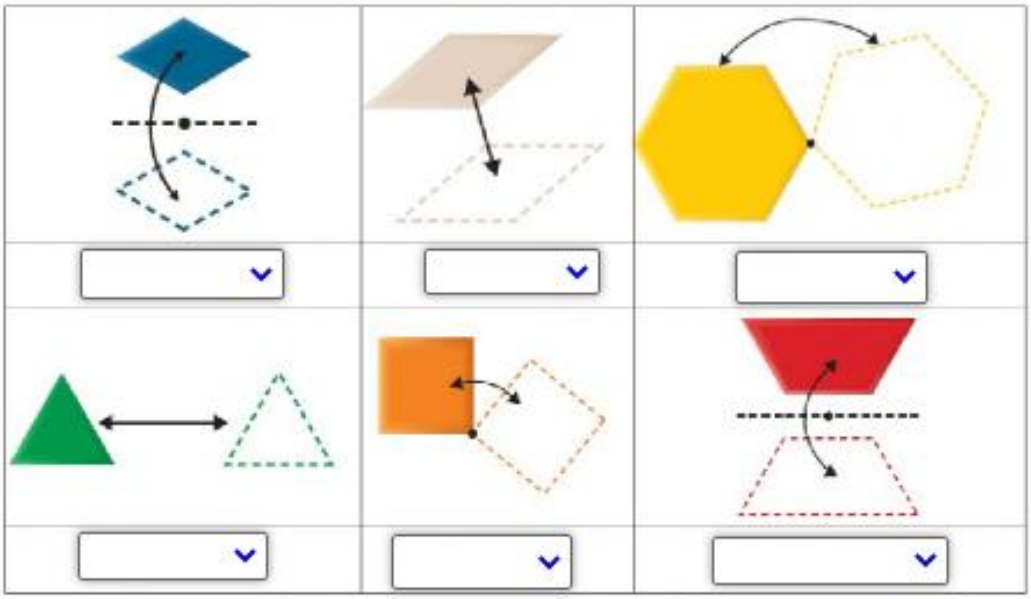
5 

6 

Worksheet (2)

Rotation, reflection and translation 21

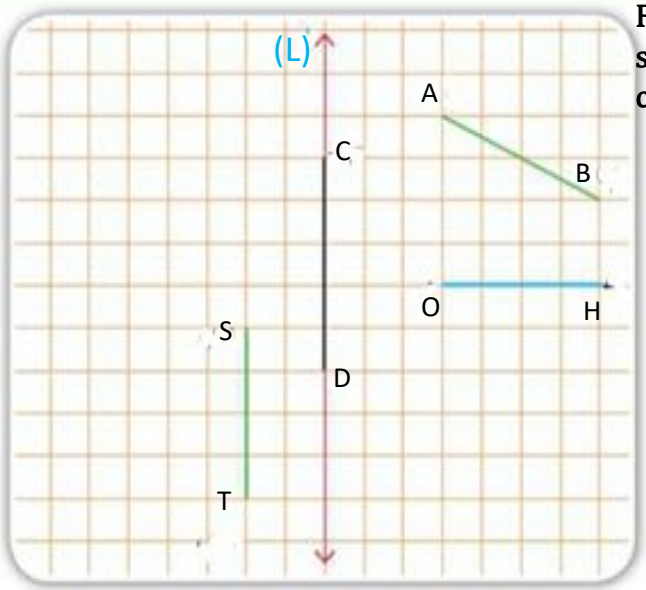
❶ **Specify the type of each of the following geometric transformations:**



❷ **Suppose that a toy moved forward for two squares. What's the type of that transformation? Justify your answer.**

LIVEWORKSHEETS

Worksheet (3)



Find the images of the following segments using symmetry with respect to the line (L). then complete:

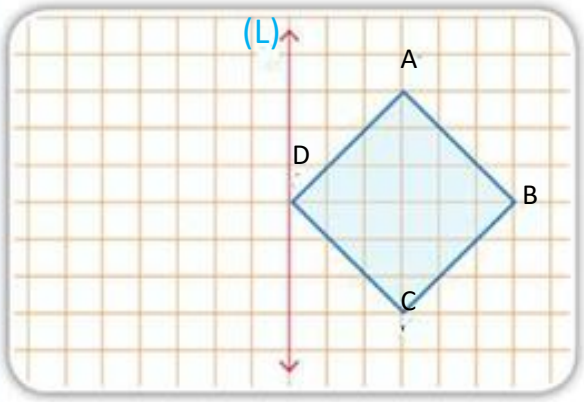
a) Image of AB by reflection with respect to the line (L) is …….

b) Image of HO by reflection with respect to the line (L) is …….

c) Image of ST by reflection with respect to the line (L) is …….

d) Image of CD by reflection with respect to the line (L) is …….

Worksheet (4)



Find the images of the square ABCD using the reflection with respect to the line (L).

Specify on the graph:

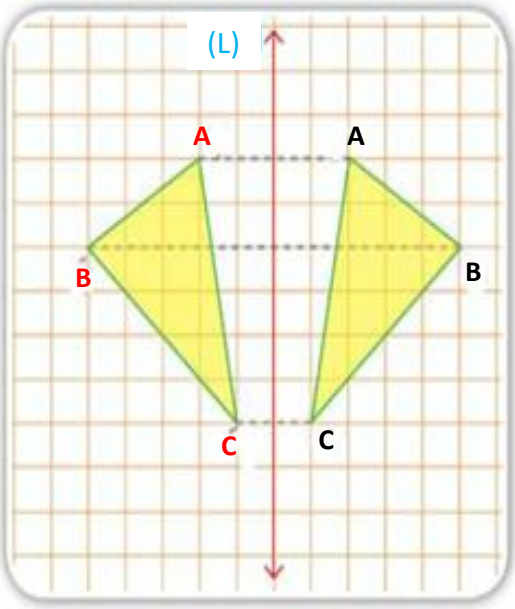
point A image of A
point B image of B
point C image of C

Notice that:

D ∈ L so the image of D coincides with D.

∴ the image of ABCD is ABCD.

Worksheet (5)



Find the images of the triangle ABC using the reflection with respect to the line (L).

The triangle ABC is formed of 3 sides are: $\overline{AB}$, $\overline{BC}$, $\overline{AC}$.

In the adjacent figure:

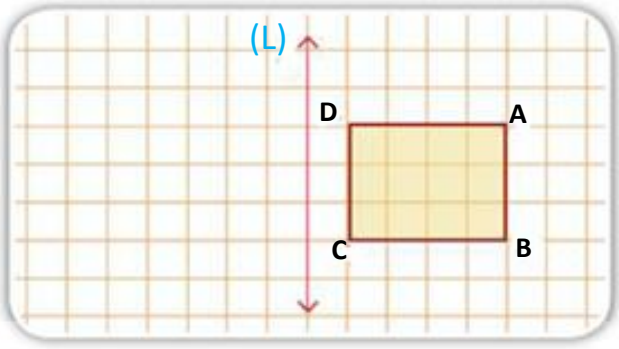
Specify the point A image of A using reflection with respect to the line (L).

Specify the point B image of B using reflection with respect to the line (L).

Specify the point C image of C using reflection with respect to the line (L).

Draw each of AB, BC and CD to have the triangle ABC the image of the triangle $\overline{ABC}$ using reflection with respect to (L)

Worksheet (6)



Find the images of the rectangle ABCD using reflection **with respect to line (L). Then complete:**

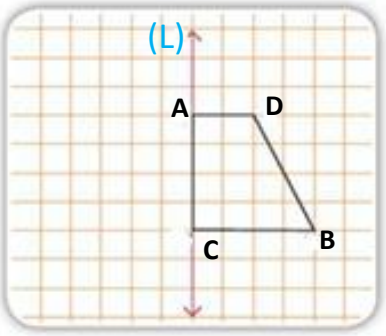
(a) The image of the rectangle ABCD using reflection with respect to (L) is the rectangle ……..

(b) BC= ……., Mes($\hat{C}$)=……

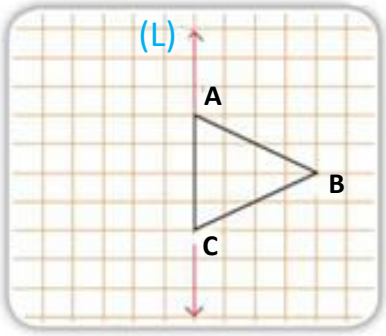
Worksheet (7)

Specify the image of the following using reflection **with respect to (L)**

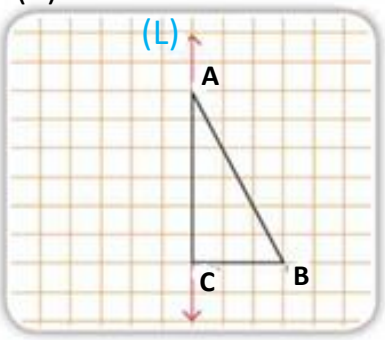
(A)



(B)



(C)



From the given shapes complete:

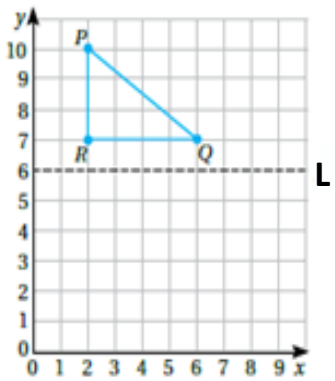
(1) Each shape and its image: ……..

(2) The image of point A is …… because……..

(3) The image of point C is …… because……..

(4) If you fold the paper having of the previous shapes at the axis of reflection, then the shape coincides at ……

Worksheet (8)



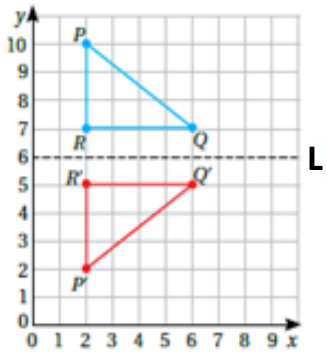
Draw the image of triangle **PRQ** using reflection with respect to the horizontal axis, the write the coordinates of the heads of the figure. Do the shape and the image have the same length of sides and measure of the angles?

Complete:

Coordinates of the vertices of the triangle are:

P (……. , ……..) , R(…… , ……) , Q(…… , ……)

Worksheet (9)

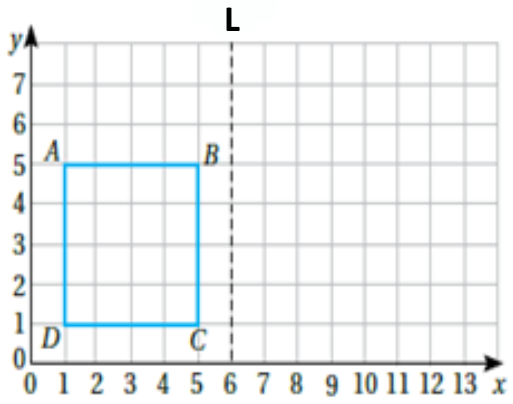


Observe the triangle P'R'Q' the image of triangle PRQ by reflection **with respect to the line L.**

Complete:

Original coordinates	$P(2, 10)$	$R(\dots, \dots)$	$Q(6, 7)$
Image coordinates	$P'(\dots, \dots)$	$R'(2, 5)$	$Q'(\dots, \dots)$

Worksheet (10)



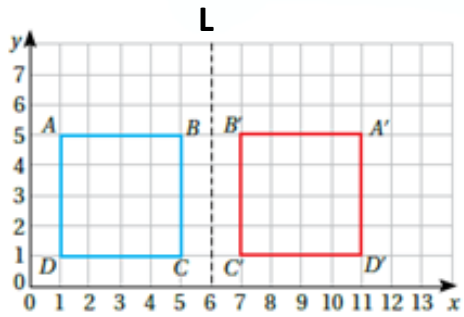
Draw the image of the square **ABCD** by reflection with respect the vertical axis and write the coordinates of the vertices of the image. Do the shape and the image have the same length of sides and measure of angles?

Complete:

Coordinates of vertices of the square, are:

$A(\cdots, \cdots), B(\cdots, \cdots), C(\cdots, \cdots), D(\cdots, \cdots)$

Worksheet (11)

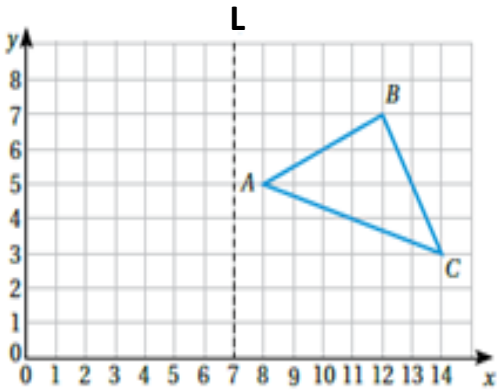


Observe the square A'B'C'D' the image of square ABCD by reflection **with respect to the line L.**

Complete:

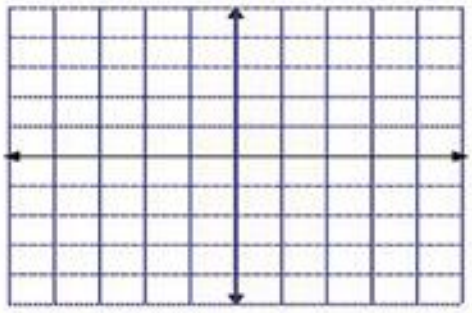
Original coordinates	$A(1,5)$	$B(\ldots,\ldots)$	$C(5,1)$	$D(\ldots,\ldots)$
Image coordinates	$A'(\ldots,\ldots)$	$B'(7,5)$	$C'(\ldots,\ldots)$	$D'(11,1)$

Worksheet (12)



Draw the image of the triangle **ABC** by reflection with respect the vertical axis and write the coordinates of the vertices of the image. Do the shape and the image have the same length of sides and measure of angles?

Worksheet (13)

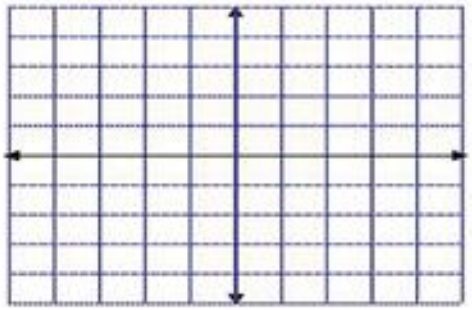


Example (1):

Vertices of the triangle KMN are:

K (2, -4), M (-4,2), N (-3, -4)

Draw the triangle KMN and its image by reflection with respect to the x- axis.

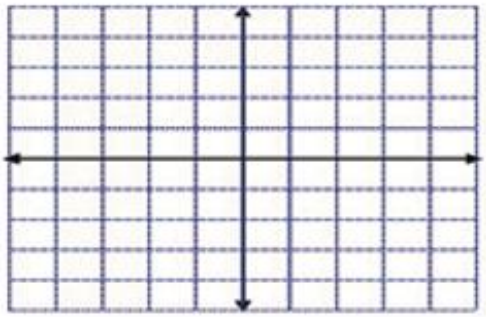


Example (2):

Vertices of the triangle ABC are:

A (-1, 4), B (4, -2), C (0, -3)

Draw the triangle ABC and its image by reflection with respect to the y- axis.



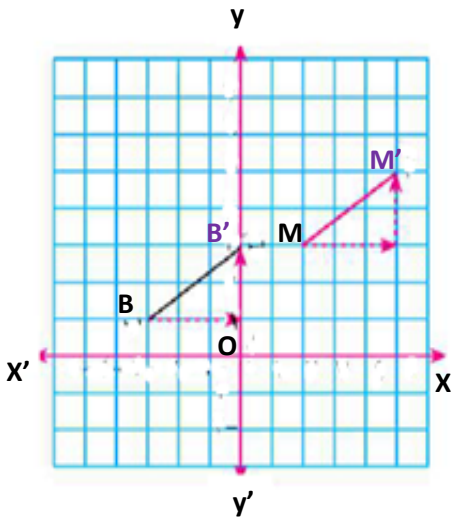
Example (3):

Vertices of ▱ GHIJ are:

G (-1, 2), H (2, 3), I (6, 1), J(3, 0)

Draw the shape GHIJ and its image by reflection with respect to the line y=x.

Worksheet (14)



In the adjacent figure find the image of the points M (2,3), B (-3,1) by translation (x+3, y+2).

First: Specify the value and direction of translation which is moving 3 units in the direction $\overrightarrow{Ox}$, followed by moving 2 units in the direction $\overrightarrow{Oy}$.

Second: Each point has a separate image as the following:

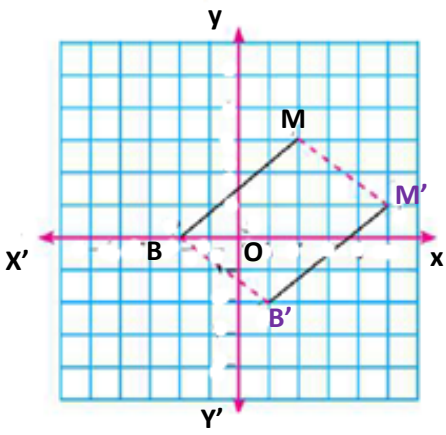
Complete:

M'= (……, ……) = (……, ……)

B'= (……, ……) = (……, ……)

Notice that the points and arrows on the graph shows the translation as value and direction in each case.

Worksheet (15)



In the adjacent figure find the image of the segment MB such that M (2,3), B (-2,0) by translation (x+3, y-2).

First: Specify the value and direction of translation which is moving 3 units in the direction x, followed by moving 2 units in the direction y.

Second: Each point has a separate image as the following:

Complete:

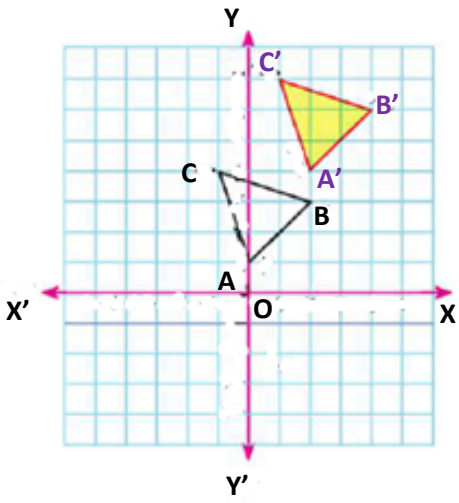
M'= (……, ……) = (……, ……)

B'= (……, ……) = (……, ……)

Remark:

$\overline{M'B'}$ image of $\overline{MB}$ by translation (x+3, y-2). M'B'=MB, (M'B') // (MB)

Worksheet (16)



In the adjacent figure △MBC such that M (0,1), B (2,3), C (-1, 4) find the image of △MBC by translation (x+2, y+3).

First: Specify the value and direction of translation which is moving 2 cm in the direction x, followed by moving 3 cm in the direction y.

Second: Each point has a separate image as the following:

Complete:

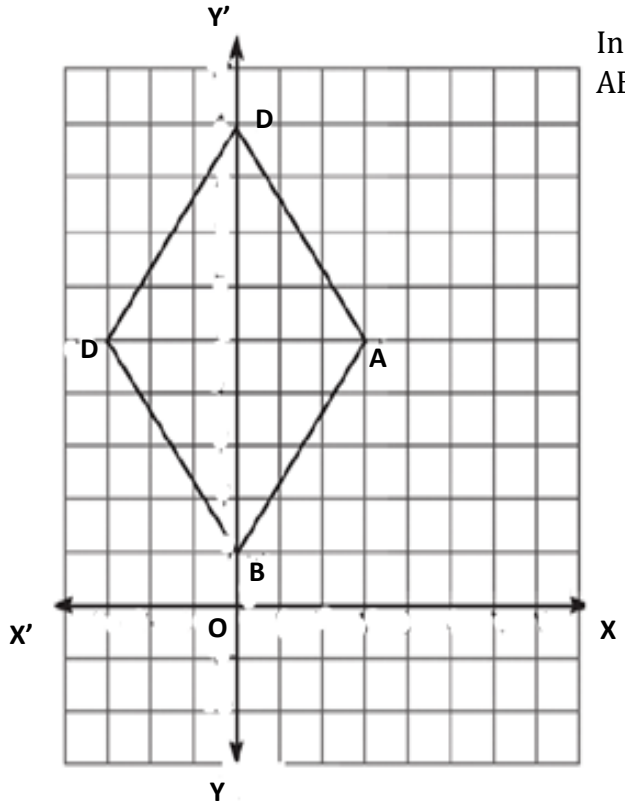
M'= (……, ……) = (……, ……)

B'= (……, ……) = (……, ……)

C'= (……, ……) = (……, ……)

Third: Mark the points M'B'C' then match it to form △M'B'C' image of △MBC by translation (x+2, y+3).

Worksheet (17)



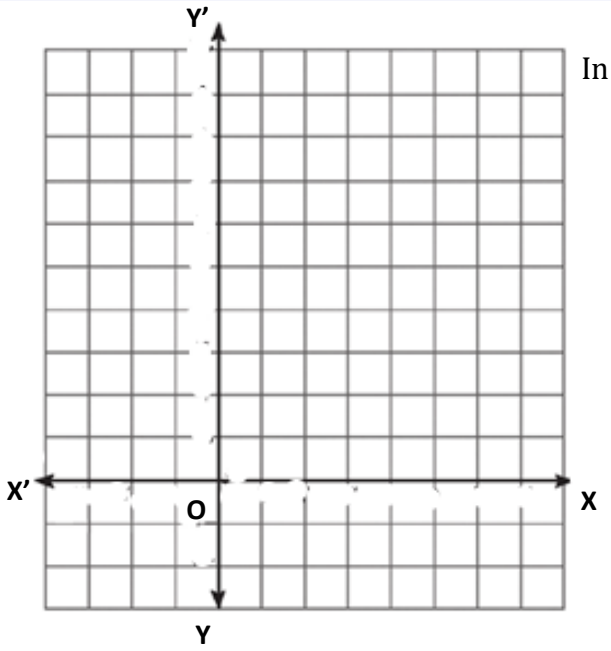
In the adjacent coordinates system, the shape ABCD.

(a) Complete the coordinates of the following points:

A (....., ...) , B(....., ...) ,
C(....., ...) , D(....., ...)

(b) The area of the shape ABCD can be calculated using the length of its perpendicular diagonals. Such that:
Length AC=……..
Length BD=. ……
Area of the rhombus= ……..

Worksheet (18)



In the adjacent coordinates system.

(a) Plot the following points:

L (-1, 1) , M (1, 1),
N (1, 8), H (-1, 8),

(b) Find the perimeter and the area of the shape LMNH.

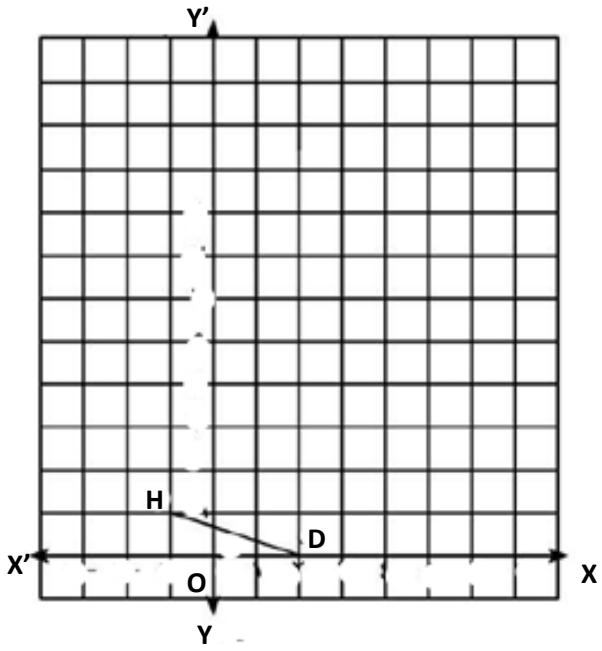
(c) Is the shape symmetric with respect to the y-axis? Why?

Worksheet (19)

Plot in the adjacent coordinates system the images of the following:

Image pf DH such that D (2, 0) and H(-1, 1) by translation (x+3, y+2).

What's the type of the formed shape DD'H'H? Why?



Worksheet (20)

Choose the correct answer in the parenthesis:

(a) The image of the point (2, -1) by translating 3 units in the positive direction of the x-axis is: …….
[(2,2) , (5, -1) , (5, 2) , (2,-2)]

(b) The image of the point (-3, 4) by translating 4 units in the negative direction of the y-axis is: …….
[(-3,0) , (-7, 4) , (-3, 8) , (-1,4)]

(c) The image of the point (3, 5) by translating (x+2, y-1) is:…….
[(5,6) , (5, 4) , (1, 4) , (1,6)]

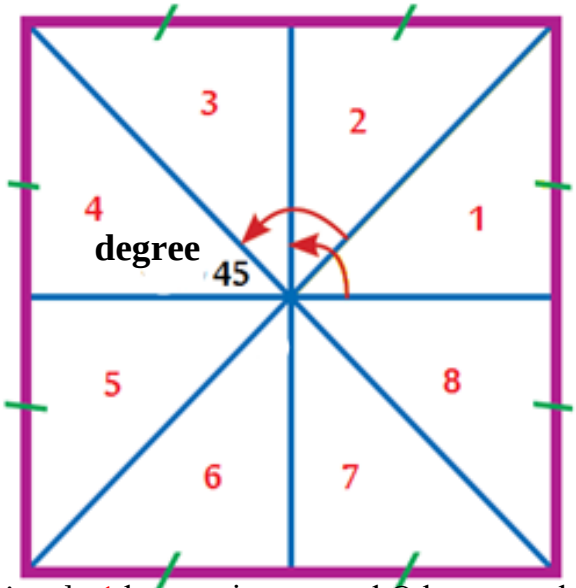
(d) The image of the point (……., ……..) by translating (x-3, y+4) is (-5, 11). [(-8,15) , (-2, 7) , (-8, 7) , (-2,7)]

(e) The image of the point (8, -10) by translating (-3, 4) is:…….
[(5,-6) , (5, -14) , (11, -6) , (11,-14)]

(f) The image of the point (1, -3) by translating (……., ……..) is (1, 0).
[(1, 0) , (0, 3) , (3, 0) , (0,-3)]

Worksheet (21)

The following shape is a square, complete:



* Triangle 2 is the image of triangle 1 by rotating around O by an angle ……. Degrees.
* Triangle 3 is the image of triangle 1 by rotating around O by an angle ……. Degrees.
* Triangle 4 is the image of triangle 1 by rotating around O by an angle ……. Degrees.
* Triangle 5 is the image of triangle 1 by rotating around O by an angle ……. Degrees.
* Triangle 6 is the image of triangle 1 by rotating around O by an angle ……. Degrees.
* Triangle 7 is the image of triangle 1 by rotating around O by an angle ……. Degrees.
* Triangle 8 is the image of triangle 1 by rotating around O by an angle ……. Degrees.

Worksheet (22)

Observe the following points and its images around the origin O with the following measures of angles.

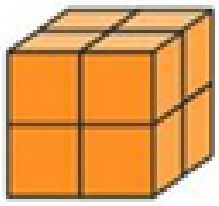
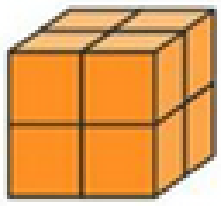
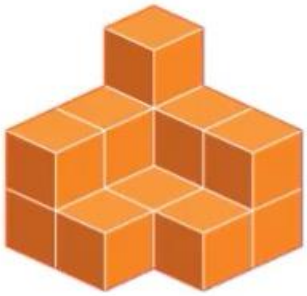
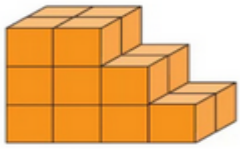
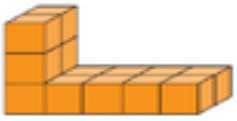
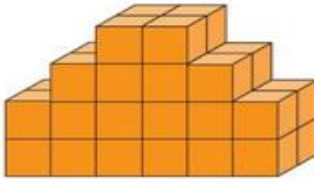
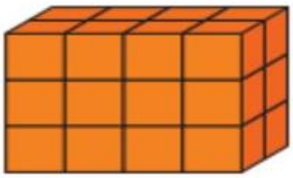
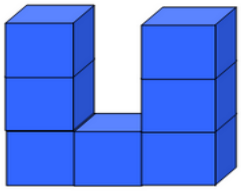
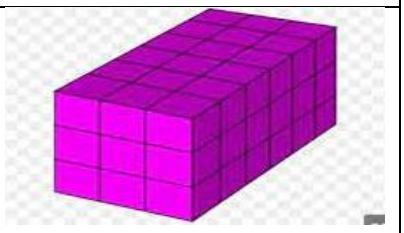
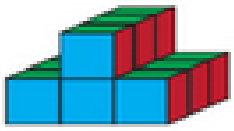
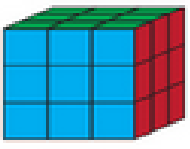
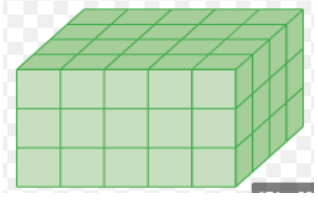
Complete:

point	The image of the point by rotating an angle of measure:				
	90°	180° or -180°	270°	360°	-90°
A (2, 5)	(....., ...)	(....., ...)	(....., ...)	(....., ...)	(....., ...)
B (-1, 3)	(....., ...)	(....., ...)	(....., ...)	(....., ...)	(....., ...)
C (- 2, 3)	(....., ...)	(....., ...)	(....., ...)	(....., ...)	(....., ...)
D (1, -4)	(....., ...)	(....., ...)	(....., ...)	(....., ...)	(....., ...)
H (-5, -3)	(....., ...)	(....., ...)	(....., ...)	(....., ...)	(....., ...)

Topic (11): 2D shapes and 3D shapes

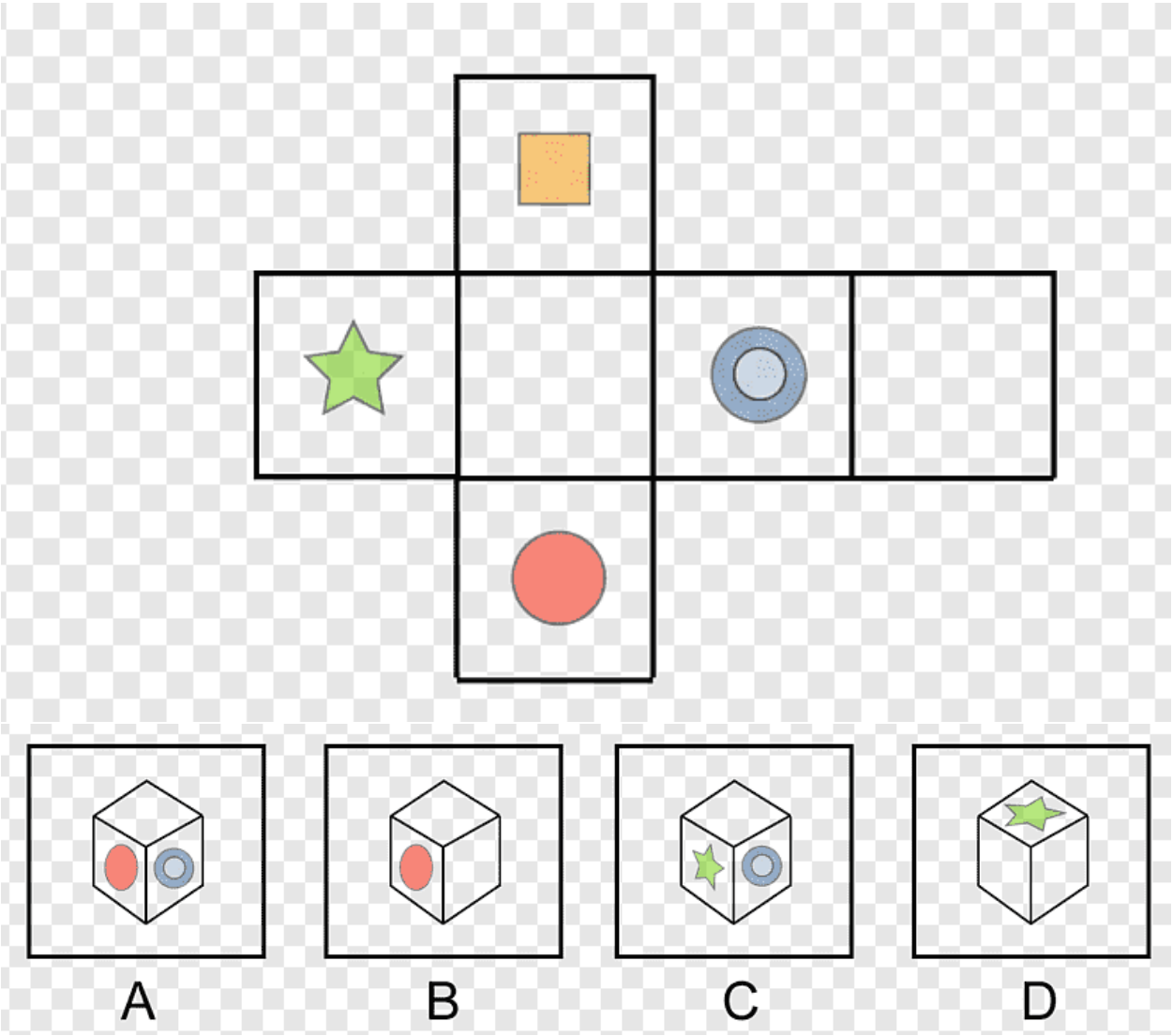
Worksheet (1) Diagnostics

Calculate the volume of the cubes by counting

		 .....
		 .....
		 .....
		 .....

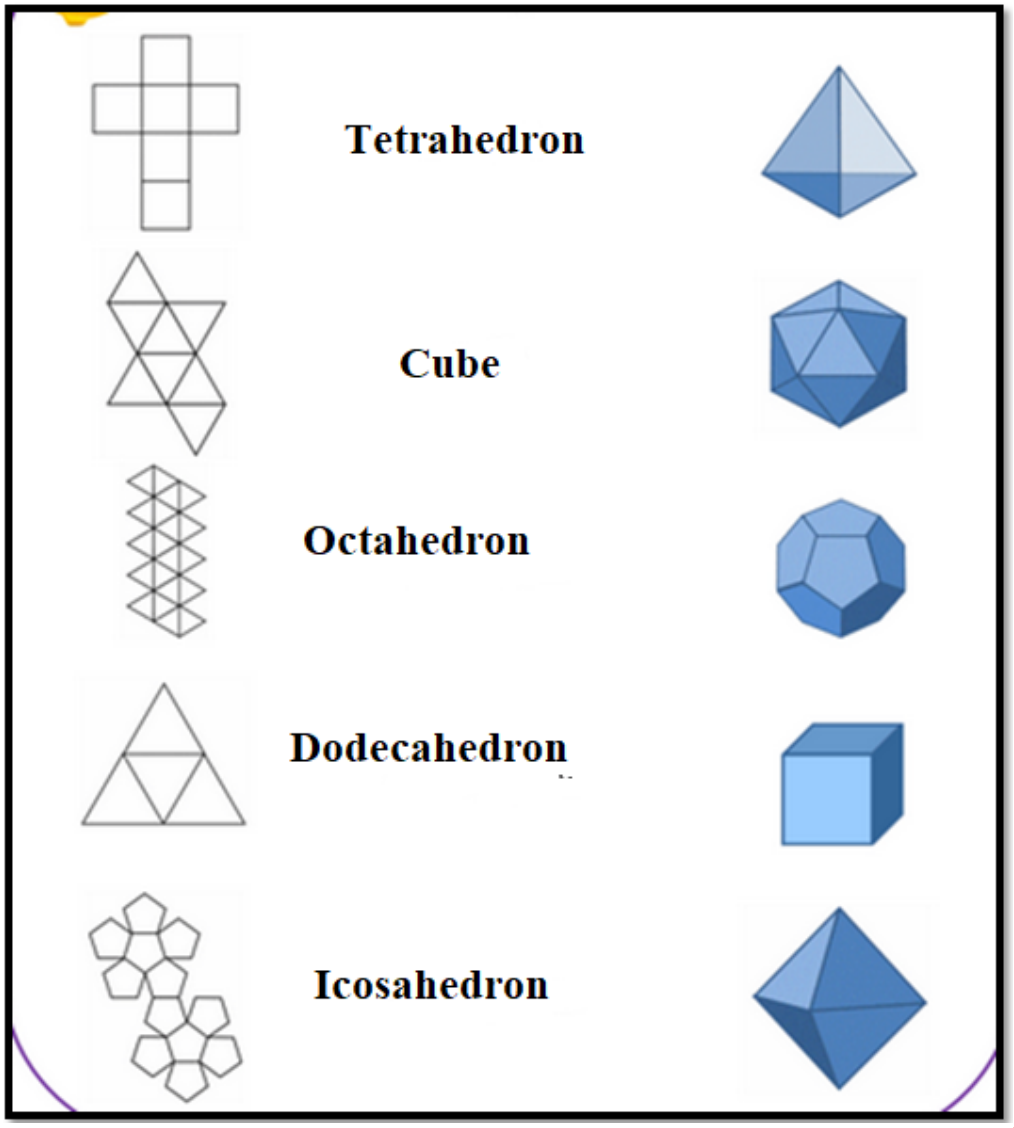
Worksheet (2)

Which of the following solids can be formed using the following figures?



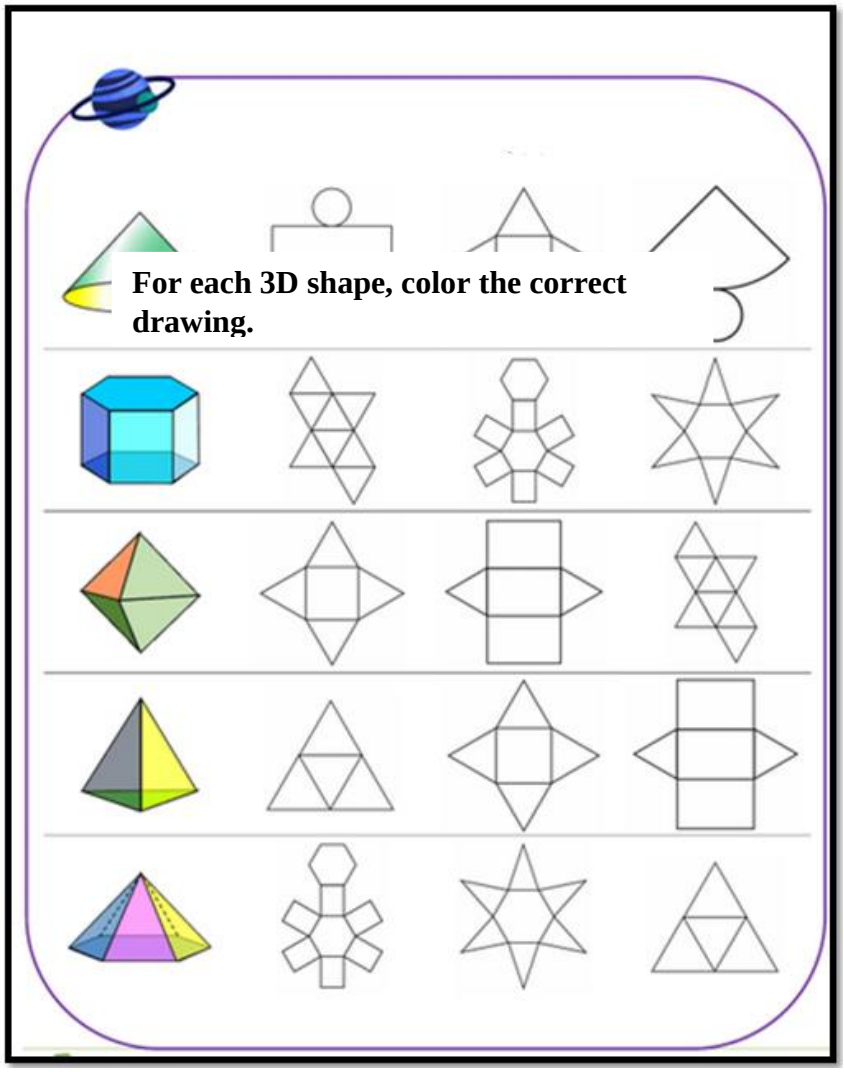
Worksheet (3)

Match each 3D shape to its suitable one



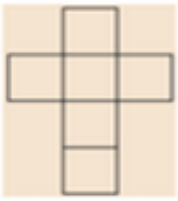
Worksheet (4)

In each row: Select the appropriate shape.

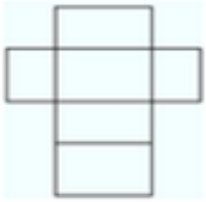


Worksheet (5)

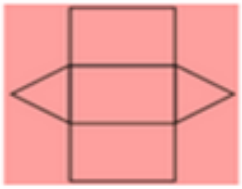
Learn about the following nets of solids.



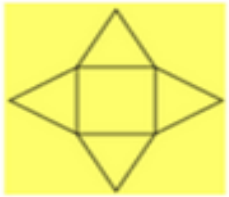
The Cube
Faces: 6
Edges: 12
Vertices:8



the rectangular prism
Faces: 6
Edges: 12
Vertices: 8



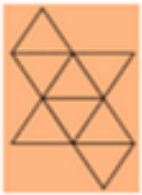
the triangular prism
Faces: 5
Edges:9
Vertices: 6



Square pyramid
Faces: 5
Edges: 8
Vertices: 5

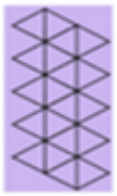
Tetrahedron
Faces: 4
Edges: 6
Vertices: 4

Hexagon
Faces: 7
Edges: 12
Vertices: 7



Hexagonal pyramid
Faces: 5
Edges: 8
Vertices: 5

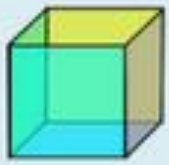
Dodecahedron
Faces: 12
Edges: 30
Vertices: 20



Icosahedron
Faces: 20
Edges: 30
Vertices: 12

Worksheet (6)

Learn about the 3D shapes

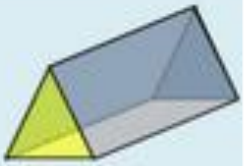


Name:

Faces:

Edges:

Vertices:



Name:

Faces:

Edges:

Vertices:

Name:

Faces:

Edges:

Vertices:

Name:

Faces:

Edges:

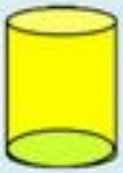
Vertices:

Name:

Faces:

Edges:

Vertices:



Name:

Faces:

Edges:

Vertices:

Name:

Faces:

Edges:

Vertices:

Name:

Faces:

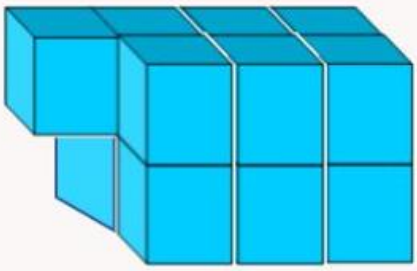
Edges:

Vertices:

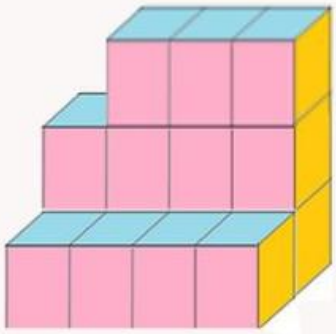
Tetrahedron – Square pyramid – Triangular prism – Cuboid – Cone – Cylinder – Sphere – Cube

Worksheet (7)

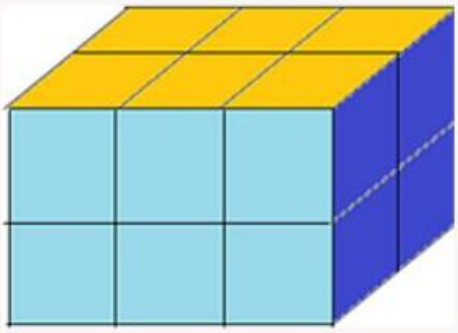
Use the counting to determine the volume in each of the following



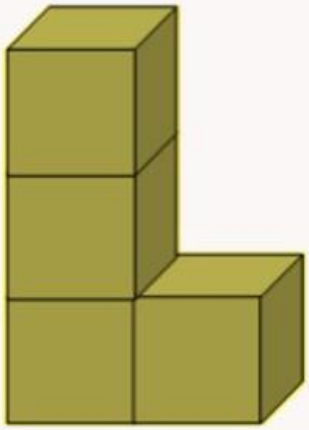
Unit cube .....



Unit cube .....



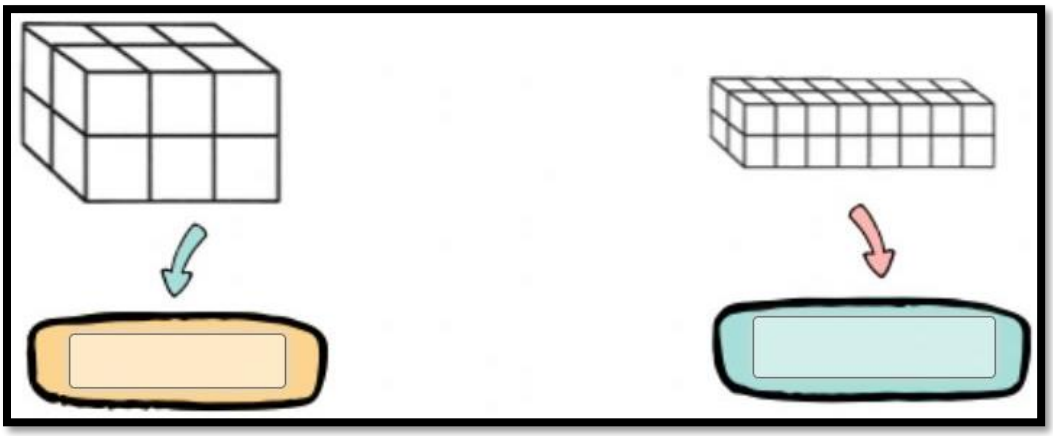
Unit cube .....

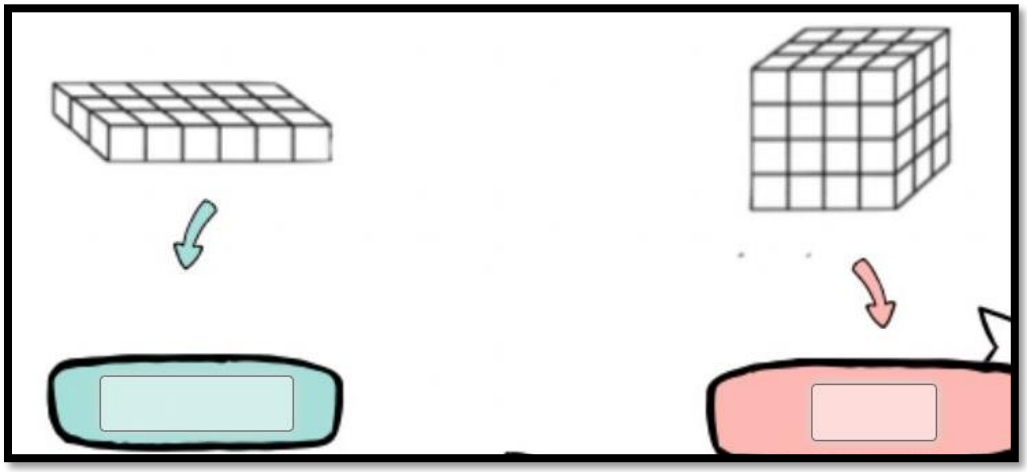


Unit cube .....

Worksheet (8)

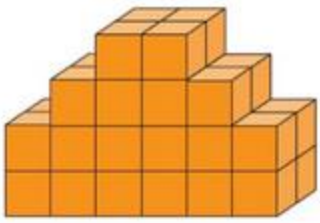
Use the small cubes to determine the volume in each of the following



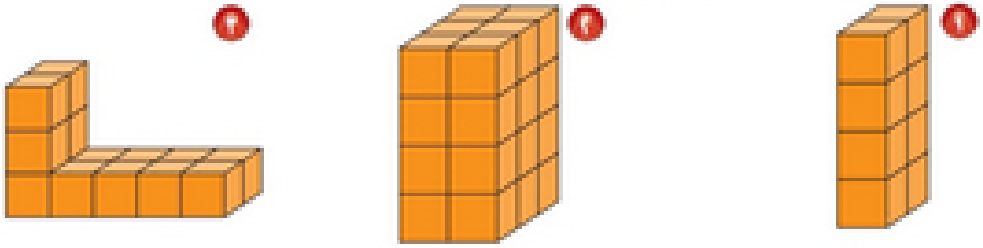


Worksheet (9)

Use the small cubes to determine the volume in each of the following:



....



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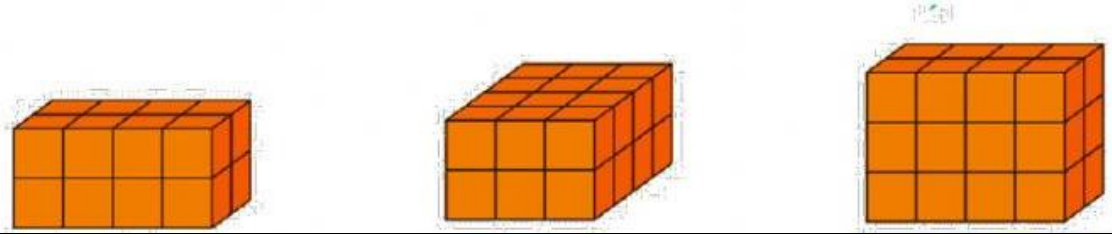
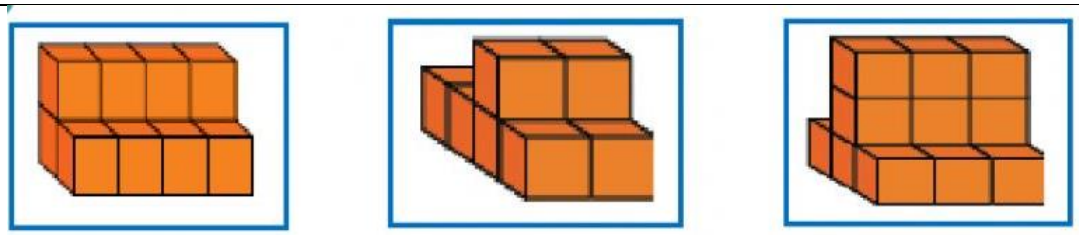


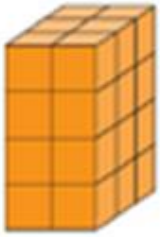
....



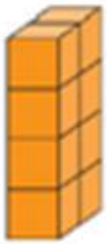
....

Worksheet (10)

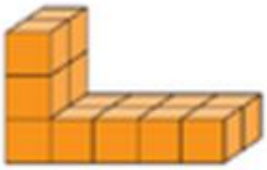
Calculate the volume of the following shape"



Volume= ---------- unit cube



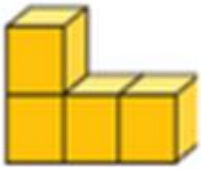
Volume= ---------- unit cube



Volume= ---------- unit cube

Volume= ---------- unit cube

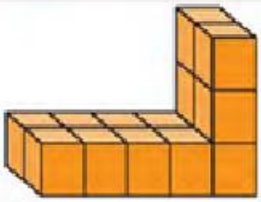
Volume= ---------- unit cube



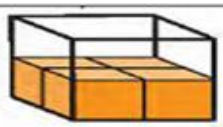
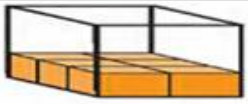
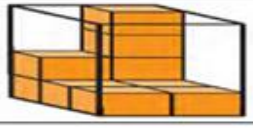
Volume= ---------- unit cube

Worksheet (11)

Question one: Choose the correct answer:

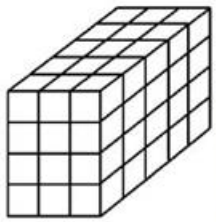
A			
	8	**10**	**12**
B			
	21	**24**	**26**
C			
	12	**18**	**14**

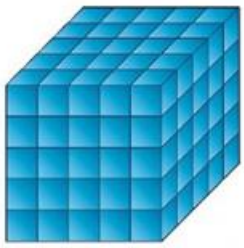
Question two: Match

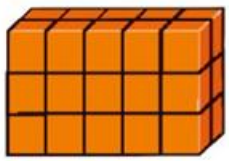
		**24 cubes**
		**18 cubes**
		**8 cubes**

Worksheet (12)

Find the volume of each solid using the cubes





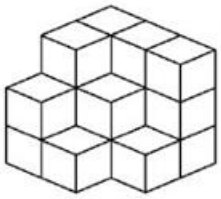


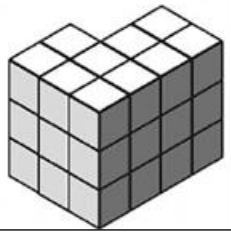
1) The volume of the solid ----------

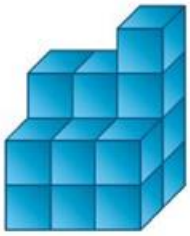
2) The volume of the solid ----------

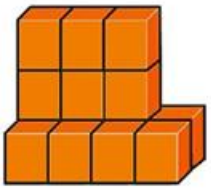
3) The volume of the solid ----------

4) The volume of the solid ----------









5) The volume of the solid ----------

6) The volume of the solid ----------

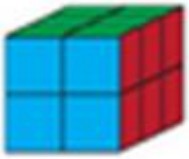
7) The volume of the solid ----------

8) The volume of the solid ----------

Worksheet (13)

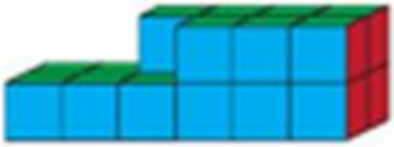
Find the volume of each of the following cubes

6



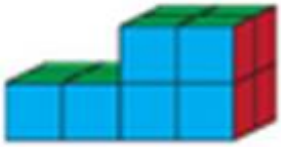
5

4

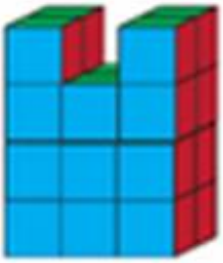


9

8



7

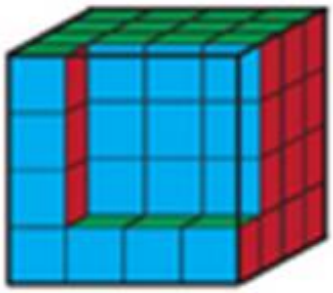


12

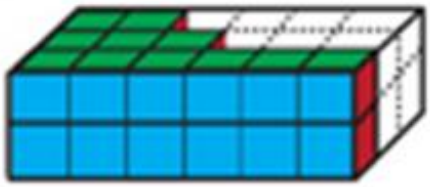
11

10

Find the number of needed cubes to complete the solid.



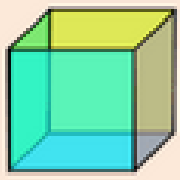
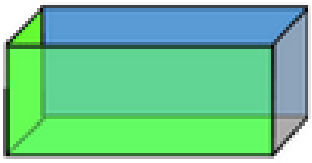
14



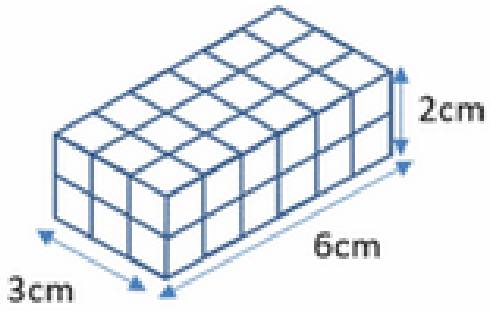
13

Worksheet (14)

Determine the properties of a cube and cuboid

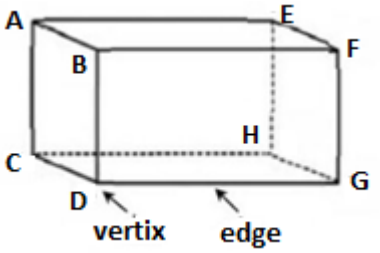
Name of the shape ---------- 	**Faces:** **Edges:** **Vertices:**
Name of the shape ---------- 	**Faces:** **Edges:** **Vertices:**

Learn about the meaning of the volume



The Topic (12): The volume of a rectangular prism

Worksheet (1)



The following figure represents a **rectangular prism**

1) The number of faces of a **rectangular prism** = 6 faces

2) The number of vertices of a **rectangular prism** =8vertices

3) The number of edges of a rectangular prism= 12 edges

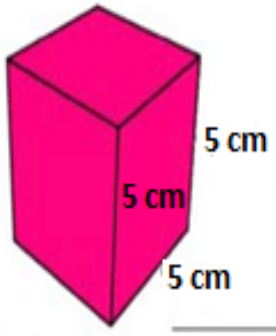
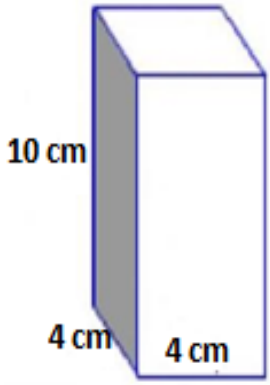
The rectangular prism has 6 faces, 8 vertices, and 12

Worksheet (2)

A juice can in the form of a rectangular prism with a height of 12 cm and a square-shaped base with a side length of 5 cm.

How much juice is needed to fill the can?

Worksheet (3)

The figure	Its volume
	cm^3
	cm^3

Worksheet (4)

Q1: Name the shapes which are in the form of rectangular prism:

1…….…. 2…….. 3…….. 4…….

Q2: Complete:

The number of faces of the rectangular prism = ...

The number of vertices of the rectangular prism = ...

and the number of edges of the rectangular prism = ...

Worksheet (5)

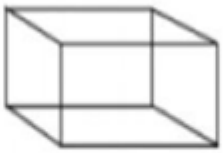
A swimming pool has the shape of a rectangular prism

of base (76 m and 32 m) and its height is 3m.

the swimming pool is filled with water to height of 2.7 m

Find the volume of water in cubic meters.

Worksheet (6)

comparison	Cube	Rectangular prism
The shape		
Number of faces		
Number of lateral faces		
Number of vertices		
Number of edges		
The shape of the lateral face		

- A cube is just a special case of a rectangular prism, it means that every cube is a rectangular prism and the converse is not true.
- The faces of a rectangular prism are rectangles and each two opposite faces are equal.
- The faces of a cube are squares and they are equal.

Worksheet (7)

The objectives: 1) Recognize the properties of a rectangular prism

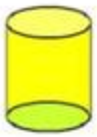
2) calculate the volume of a rectangular prism.

Preliminary: Name the following shapes.

Pyramid

Rectangular prism

Cube



Cylinder

Worksheet (8)

The objective: to calculate the volume of a rectangular prism.

The Volume is the number of cubic units that can fill the shape.

The volume of a rectangular prism $= length \times width \times height$

Example 1 :

Calculate the volume of a rectangular prism of length 10 cm, width of 5 cm and of height 3 cm.

Solution:

The volume of a rectangular prism $= l \times w \times h$

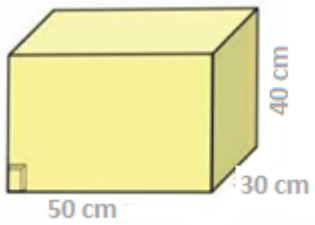
=……..

=……

Worksheet (9)

Carton box has the shape of a rectangular prism of dimensions (50 cm, 40 cm and 30 cm) .

How many pieces of soap can be placed inside the box to fill it up, if the dimensions of the piece of the soap are (8 cm , 5 cm and 3 cm).



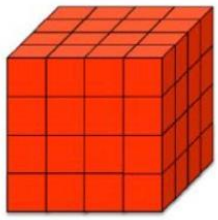
Worksheet (10)

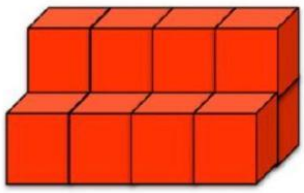
Match each shape to its volume

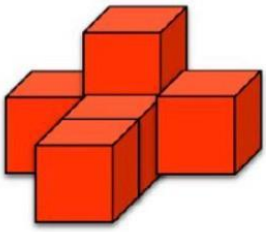
12 cubic units

6 cubic units

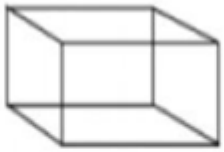
64 cubic units





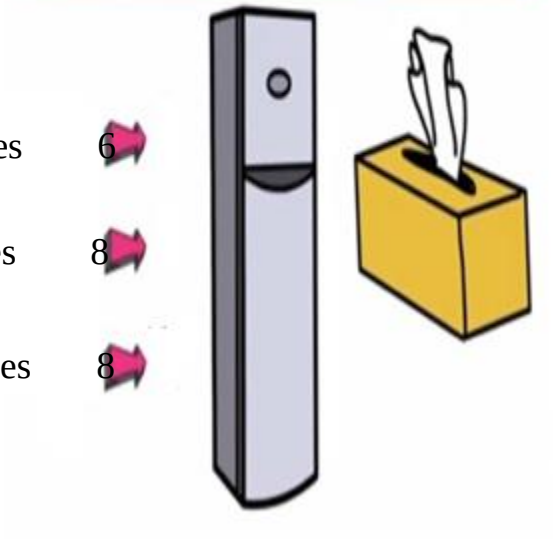


Worksheet (11)

Comparison	Cube	Rectangular prism
The shape		
Number of faces		
Number of lateral faces		
Number of vertices		

Worksheet (12)

e volume of a rectangular prism



Number of faces 6

Number of vertices 8

Number of edges 8

Worksheet (13)

The volume of a rectangular prism $= length \times width \times height$

The volume of a rectangular prism $= side \times itself \times height$ (with square base)

The volume of a rectangular prism $= area\ of\ the\ base \times height$

Worksheet (14)

A bowl in the form of a rectangular prism with a square base with a side length of 20 cm. If two liters of water are poured into the bowl, find the height to which the water reaches.

Worksheet (15)

Carton box has the shape of a rectangular prism of dimensions (42 cm, 35cm and 28 cm) .

How many pieces of soap can be placed inside the box to fill it up, if the dimensions of the piece of soap are (7 cm, 4 cm and 6 cm).

Worksheet (16)

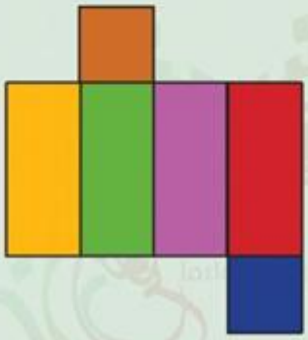
A container for transporting goods, the inner dimensions of which are (2m ,1.5 m, 3.2 m), it is intended to be filled with mineral water boxes for distribution, and its outside dimensions are 25 cm, 25cm, 40 cm

Find the greatest possible number of mineral water boxes that can be filled in the container.

Worksheet (17)

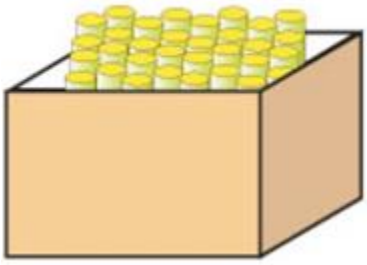
Look at the rectangular prism.

Can you make a rectangular prism of this model?



The answer is .....

Worksheet (18)



Look at the picture, it's a picture of a chalk box. and it represents a geometric shape.

Have you ever thought about the properties of this box and about properties of similar shapes?

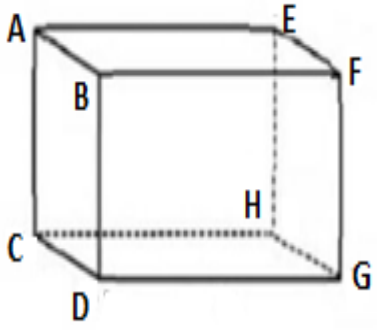
The shape drawn aside represents the shape of

a cartoon box, each vertex has a letter. examine the cartoon box well:

How many faces does it have?

it has six faces.

Name these faces: ……



For example, the upper face is AEFB

The bottom face is …….

The front face is …….

The back face is …….

The right face is …….

The left face is …….

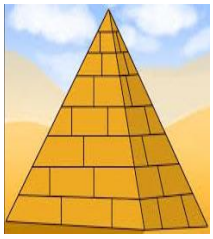
Measure the sides of each face, then Measure the

angles? What is the nature of each face?

Topic (13): the volume of the cube

Worksheet (1)

1) **Which of the following forms represents a rectangular prism?**



(A)

(B)

(C)

2) **Which of the following forms represents a cube?**

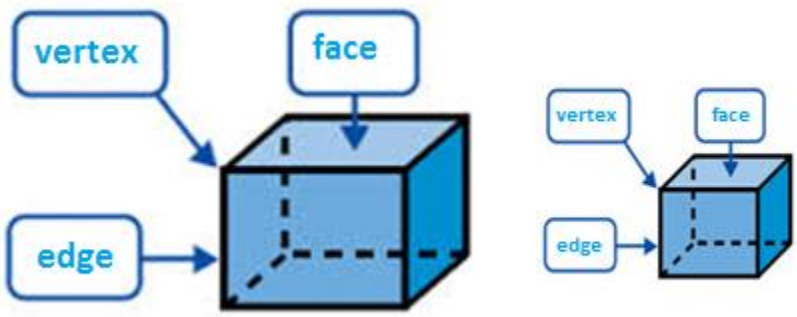
(A)

(B)

(C)

Worksheet (2)

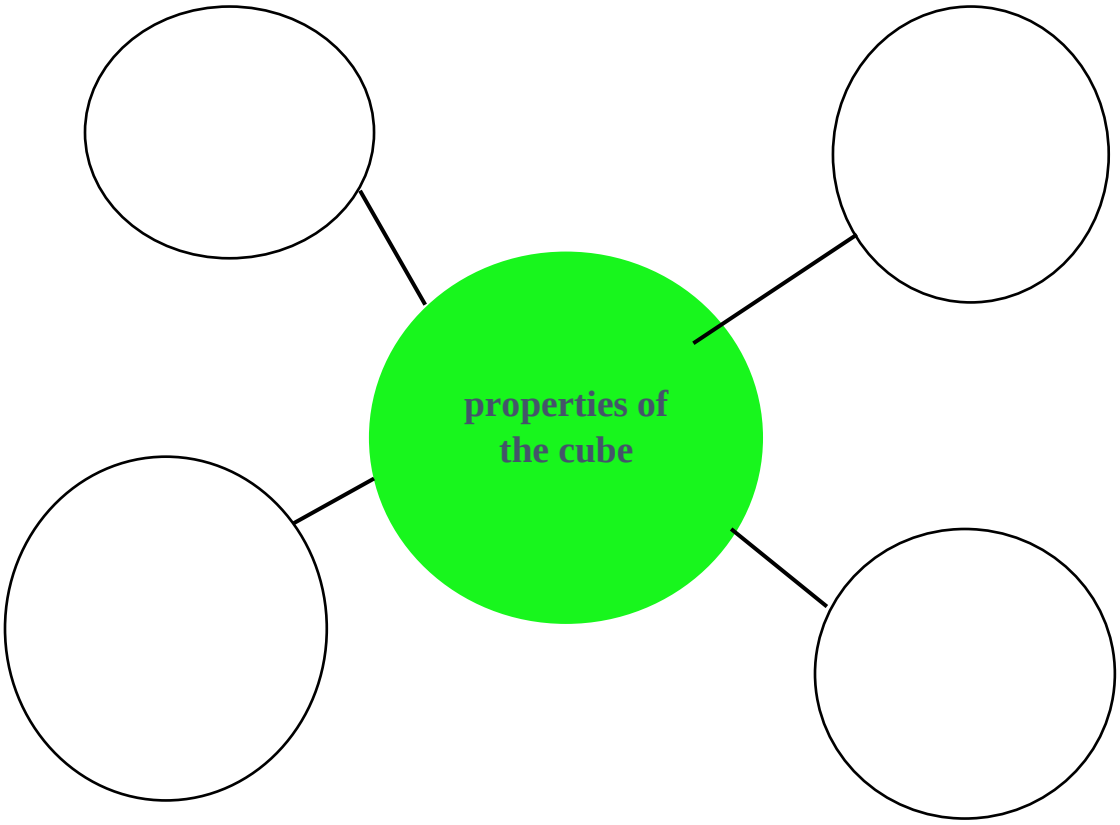
Calculate the number of edges, faces, and vertices (properties of the cube).



Number of vertices	Number of faces	Number of edges
.....	.....	.....

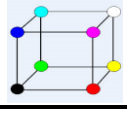
Worksheet (3)

Complete the bubble map with the properties of the cube in the sub-circles:



Worksheet (4)

Complete the following table:

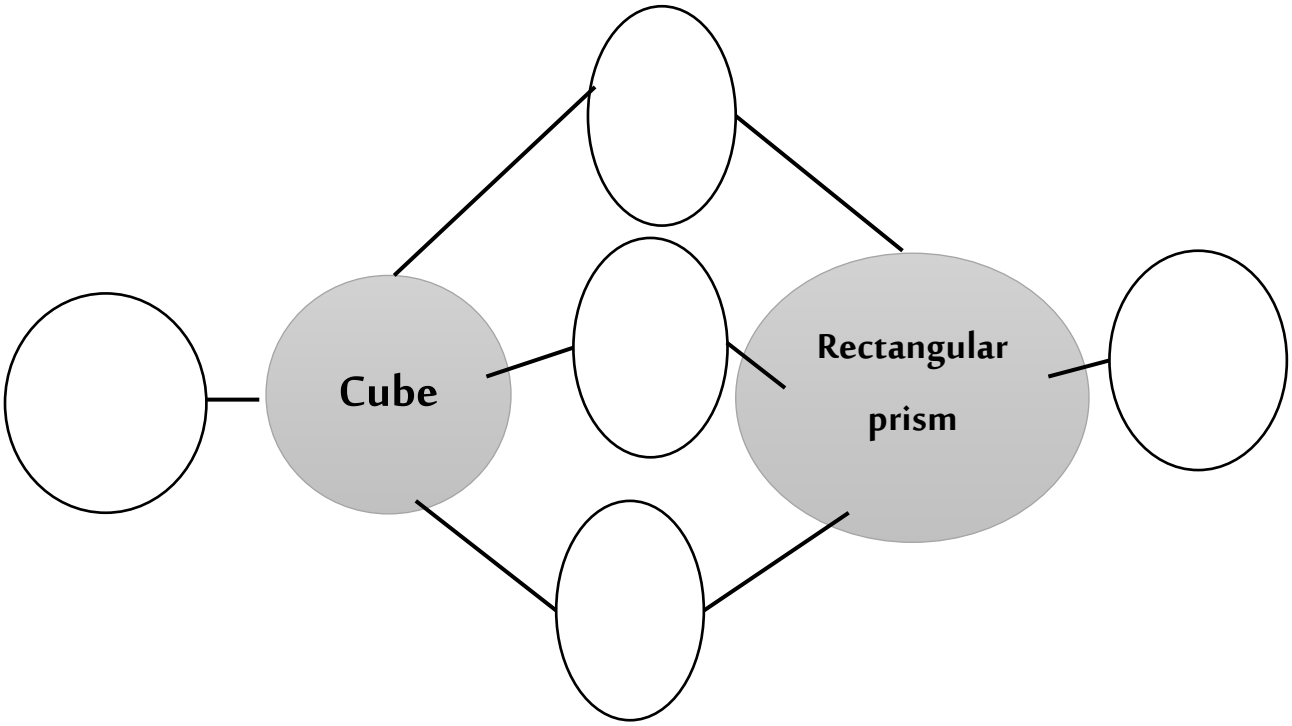
The shape	Name	Number of edges	Number of vertices	Number of faces
				
				

Worksheet (5)

The teacher shows the students the map of a double bubble which is

two adjacent circles between them a number of circles in which the common properties of (rectangular prism and cube) are written.

On the outer sides of the central circles the different properties are written.



Worksheet (6)

Find the volume of a cube with edge length 4 cm

What are the givens?

What is the required (what is the objective of the problem?).

How to calculate the volume of a cube?

The solution:

Worksheet (7)

The sum of the edges of a cube is 132 cm, calculate its volume

What are the givens?

What is the required (what is the objective of the problem?).

How to calculate the volume of a cube?

The solution:

Worksheet (8)

The area of the face of a cube is 54 cm^2, calculate its volume.

What are the givens?

What is required (what is the objective of the problem?

How to calculate the volume of a cube?

The solution:

Worksheet (9)

A metal cube, of edge of length 9 cm, it is intended to be melted and converted into alloys.

Each alloy is in the form of a rectangular prism, whose dimensions are (3 cm, 3 cm, 1 cm).

Calculate the number of ingots obtained.

What are the givens?

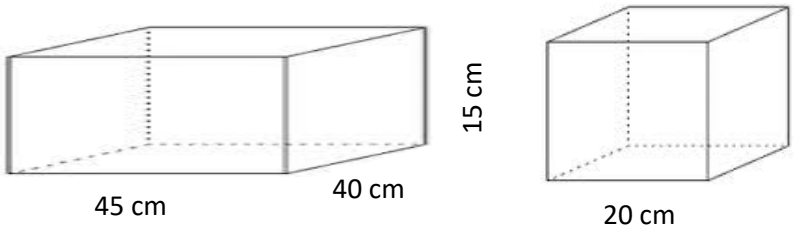
What is required (what is the objective of the problem?).

The solution:

Worksheet (10)

There is a quantity of rice, of volume 2700 cm3, it is intended to be packed in a cartoon box.

Which one of the two boxes is suitable for the quantity? Justify.



The second box **The first box**

What are the givens?

What is the required (what is the objective of the problem?).

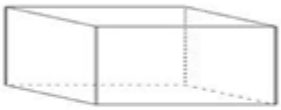
The solution:

Worksheet (11)

Choose the correct answer:

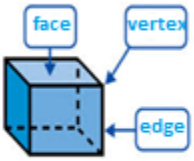
1. A shape with six faces, each one of them is a rectangle, and each two opposite faces are equal and parallel.

Then the shape is .....



(A)

(B)



(C)

2. If the dimensions of the rectangular prism are equal, it becomes

a) Cube b) Square c) Rectangle.

3. A shape with six faces, each one of them is a square, and each two opposite faces are equal and parallel

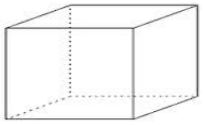
Then the shape is .....

4.The two figures (A) and (B) are similar in: …….

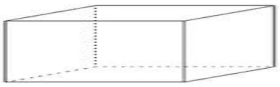
(A) All faces are equal rectangles

(B) They have 8 faces

(C) They have 8 vertices.



(A)



(B)

Worksheet (12)

- **Choose the correct answer:**

1) A cube differs from a rectangular prism in: ……

A) The cube edges are equal.

B) The cube edges are different in their lengths.

C) The cube has 8 faces, and all of which are rectangles.

2) A cube with a side length of 10 cm, its volume is equal to:

A) 1000 cm B) 1000 cm^3 C) 100 cm^3

- **Observe the following table and then complete.**

CUBE				
The volume cm^3	sum of lengths of all edges cm	Area of the base cm^2	Perimeter of the base cm	Length of edge cm
216	.....	.....	.....	6
.....	.....	.....	20	.....
.....	.....	49	.....	.....
.....	108	.....	.....	.....

Worksheet (13)

A cubic carton box, of outside edge 30 cm, and a masterpiece of glass was placed inside it to protect from breakage. Then the box was placed inside another cubic cartoon box, and the inner edge of this box is 36 cm, and the space between the two boxes was filled with sponge.

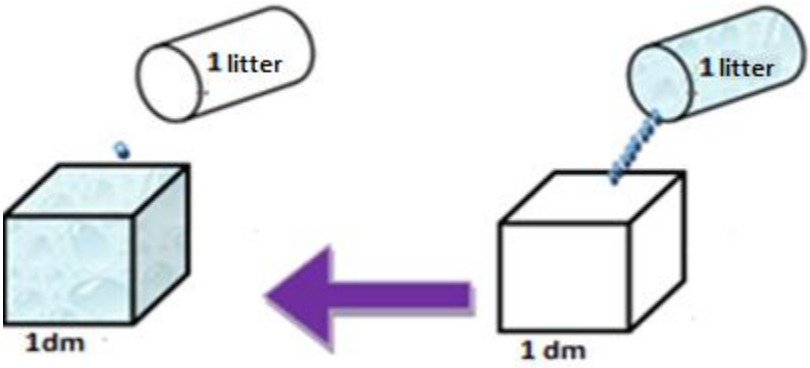
Calculate the volume of needed sponge for this.

The topic (14): The Capacity

Worksheet (1)

Observe the following figure:

An empty cubic pot whose edge is "1 dm", if we want to empty the bottle into the pot, what do you conclude?



Worksheet (2)

1- Convert the following into liters:

5600 cm^3 =... ... ...

0.23 m^3 =... ... ...

9.52 dm^3 =... ... ...

2- Convert the following into cm^3:

4.63 litter =... ... ...

55 ml = ...

0.66 m^3 = ...

Worksheet (3)

The teacher gives her students two plastic cans, one of them is **cubic** while the other is in the form of a **rectangular prism**.

- Calculate the **capacity** of each one.

Worksheet (4)

we have two cans, the first being a can of milk with a capacity of 2 liters, the second can has a capacity of 200 mm^3, how many cans of the second type do we need to fill in completely the first can.

Worksheet (5)

Choose the correct answer:

1. The bottle capacity = ...

a) 1 dm^3 b) 1 ml

c) 500 ml d) 5 litter

2. 1. The capacity of the water boiler is equal to:

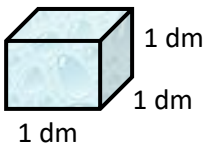
a) 1.5 dm^3 b) 15 dm^3

c) 150 dm^3 d) 1500 dm^3

3. The two figures A and B have the same capacity and is .....

a) equal to 1dm^3 b) equal to 3dm^3

c) different d) 3 liters



(A)

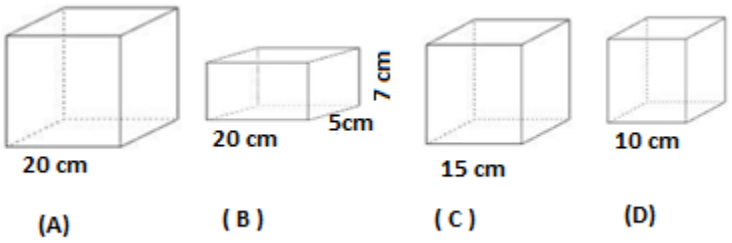
(B)

Worksheet (6)

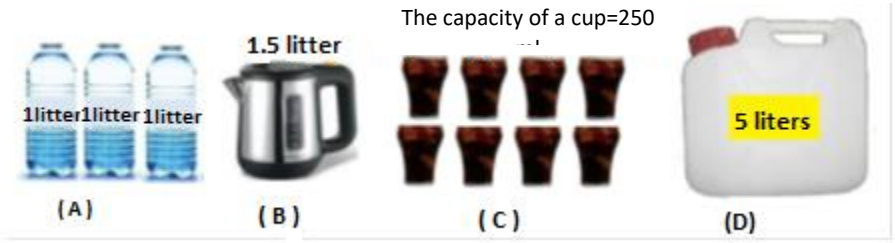
Choose the correct answer:

1. Which of the following solids can be filled with the largest amount of water?

   (Note that the dimensions are measured from the inside of each solid)



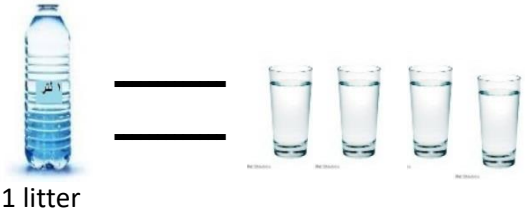
2. Which of the following objects represents the lowest capacity?



3. From the corresponding figure, the capacity of one cup = ...

a) 0.5 litter b) 250 cm^3

c) 500 cm^3 d) 750 cm^3



Worksheet (7)

1. A bottle of soda is emptied into four cups as shown, the capacity of one cup = ……

a) 0.5 cm^3 b) 250 cm^3

c) 500 cm^3 d) 750 cm^3

2. Circle the intruder (or the shape has no capacity) among the following images:

3. If we have a wooden box with a mass of 8 kg, and another cardboard box with a mass of kg as in the adjacent figure, the size of the wooden box is .....of the cardboard box size

a) smaller b) equal

c) larger d) equal to four times

4. Which of the following shapes represents the largest capacity?

Worksheet (8)

A swimming pool in the form of rectangular prism whose inner dimensions are: (40 m, 30 m, 1.8 m).
Find its capacity in liters.

Worksheet (9)

A patient takes a daily spoon full of medicine with a capacity of 3 mm^3 in the morning and in the evening, how many days does he need to take 240 cm^3 of this medicine?

Worksheet (10)

Write the appropriate unit of (m3, cm3, dm3, L, ml) to measure the following

1. The capacity of a water tank on the roof of a building. (……..)
2. The capacity of a grain container. (……..)
3. The capacity of an oil bottle. (……..)
4. The volume of the amount of medicine in the syringe. (……..)
5. The capacity of swimming pool in one of the sports clubs. (……..)
6. The size of a box of cartoons with a TV. (…….)

Worksheet (11)

Choose the right answer:

1. The cubic decimeter is the unit of .....
   (Length – Area – Capacity)

2. We measure the capacity of the pot from .....
   (Outside – Inside – Top)

3. To measure the capacity, we use .....
   (Litter - decimeter - Meter)

4. 1 litter = ……dm^3
   (1000 , 1 , 100)

5. 5900 cm^3 = ... dm^3
   (59 , 5.9 , 590)

6. 0.007 litter = ... cm^3
   (7, 70, 0.7)

7. 47 dm^3 = ... litter
   (4.7 , 47 , 470)

8. 1- A cube-shaped pot whose edge from the inside is 10 cm,

   its capacity = …… litter (1 , 100 , 1000)

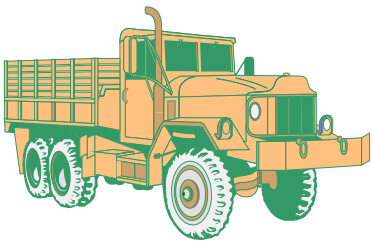
9. A bottle with a capacity of 0,85 litter, we emptied this bottle into smaller bottles, with a capacity of 1000 mm^3 each, the number of the smaller bottles is equal to ..... bottles.
   (8500, 850, 85)

Worksheet (12)

1-liter bottle of water is emptied into this aquarium; it fills it completely what do we conclude?

Worksheet (13)

The rectangular prism box of a truck whose inner dimensions are (4 m, 2.5 m, 1m), if the box is painted from inside, knowing that the cost of a meter square is 8 pounds, what is the cost of painting.



Extra worksheet (1)

Choose the right answer:

1. 1 dm^3 = ……cm^3

   (1000 , 10 , 100)

2. 1 m^3 = …….. cm^3

   (1000 , 1000000 , 10000)

3. 1 cm^3 = …… litter

   (0.1 , 1000 , 0.001)

4. 57 dm^3 = ……. litter

   (57000 , 57 , 0.057)

5. 1 litter = ….. cm^3

   (1750 , 175 , 1.75)

Extra worksheet (2)

Complete:

1. 0.36 m^3 = ... dm^3
2. 4.5 liters = ... m^3
3. 28dm^3 = ... m^3
4. 3600 dm^3 = ... liters
5. 1500 mm^3 = ... cm^3

Extra worksheet (3)

Answer by true or false, with justification

1. A liter is the unit of capacity.
2. 1 m^3 = 100 liter.
3. 1 Liter = 1000 cm^3.
4. If a piece of stone is thrown into a pot filled with water, the volume of water displaced from the pot is equal to the size of the stone.

Extra worksheet (4)

Answer:

1. A cubic pot with an edge of 30 cm from the inside, it was filled with cooking oil. Calculate its capacity.
   - If the price of one- liter is 9.5 pounds, calculate the price of all the oil.
2. A container with 12 liters of honey, was emptied in small bottles, the capacity of which is 400 cm^3. Calculate the number of small bottles.
3. A pot in the form of a rectangular prism with inner dimensions of 25 cm , 30 cm and a height of 42 cm, we filled 1/3 of its height with diesel.

   Calculate:

   a) The volume of the diesel in the pot.

   b) The total price of the diesel in the pot if the price of a liter is 1.2 pounds.

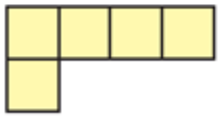
The topic (15): The lateral and total area of a cube and a rectangular prism

Worksheet (1)

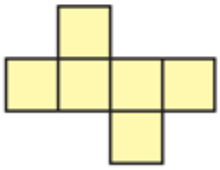
Among the following patterns, which of them represents the pattern of a cube?

(A)

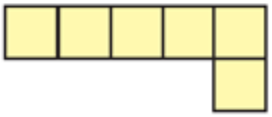
(B)



(C)

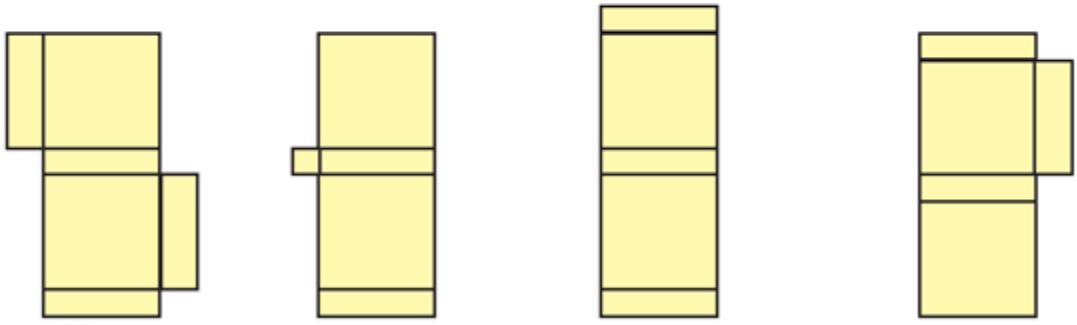


(D)



Worksheet (2)

Among the following patterns, which of them represents the pattern of a rectangular prism?



Worksheet (3)

Answer the questions on the following cards:

Complete: The number of faces of the rectangular prism = ….

Complete: The number of faces of the cube = …. .

Complete: The number of edges of the rectangular prism = ….

Complete:
The number of edges of the cube = …. .

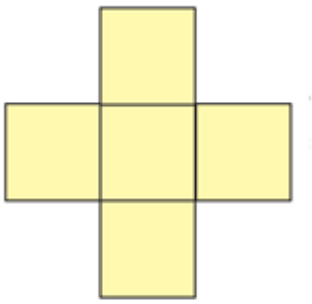
Complete: The number of vertices of the rectangular prism = ….

Complete:
The number of vertices of the cube = …. .

Worksheet (4)

Activity: Making of a cube.

Bring a square piece of cardboard of side 60 cm, then cut out four squares (of side 10 cm) from its corners, to become as in the following figure:



Fold the **pattern** and use the adhesive to get a **cube** without a lid.

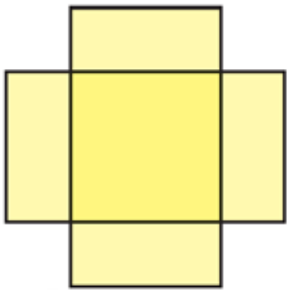
Worksheet (5)

Activity: Making of the rectangular prism

Bring a rectangular piece of cardboard with dimensions of 50 cm and 40 cm

Then, cut out four squares (of side 6 cm) from its corners, to

become as in the following figure:



Fold the **pattern** and use the adhesive to get a **rectangular prism** without a lid.

Worksheet (6)

The following figure represents a group of solids.

- Name each one, then answer the questions.

.....

.....

.....

.....

.....

.....

.....

1) What is the name of the solid of square faces?

2) What is the name of the solid of triangular faces?

3) What is the name of the solid of rectangular faces?

4) What is the name of the solid of rectangular lateral faces?

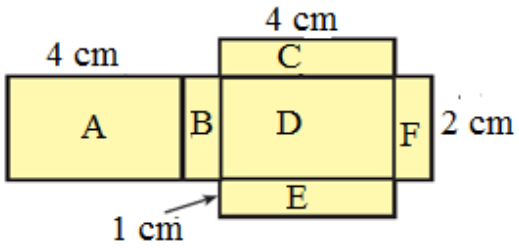
5) What is the name of the solid that has one circular base and one vertex?

6) What is the name of the solid that has two circular bases?

Worksheet (7)

Observe the dimensions of the following **pattern**.

Then, complete to get **the area of each face**.

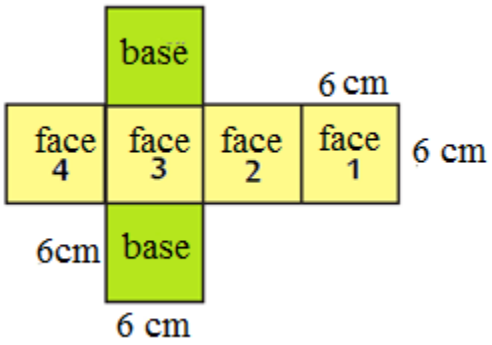


face	length × width	Area
A	... × ...	
B	... × ...	
C	... × ...	
D	... × ...	
E	... × ...	
F	... × ...	

Worksheet (8)

In the following figure:

A **Cube** with an edge of 6 cm, calculate its **lateral area** and its **total area**.



Complete:

The **lateral area** of the **cube** = the area of one face × ... ...

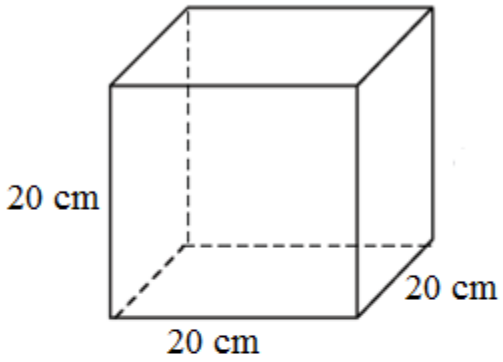
= (... ... .× ... .) × ... . = ⋯ × .... = ⋯cm^2

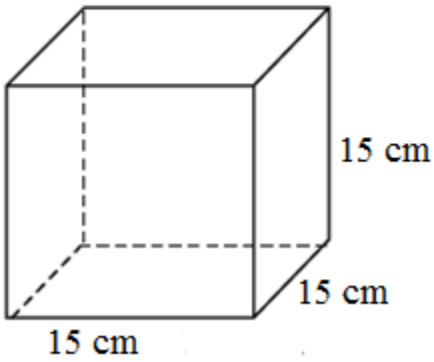
The total area of the cube = the area of one face × ... ...

= (... ... .× ... .) × ... = ⋯ × ... =… cm^2

Worksheet (9)

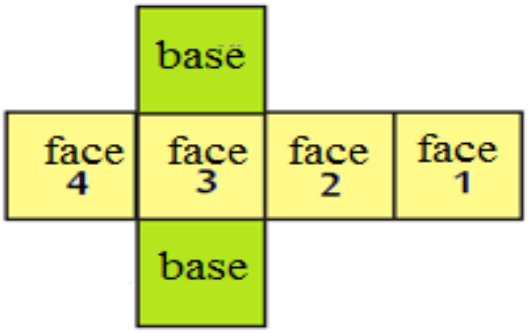
Calculate the **lateral area** and the **total area** of the following **solids**.





Worksheet (10)

In the following figure: A pattern of a cube whose base perimeter is 28 cm.



- Calculate its lateral area and total area.

Note: the height of the cube = the length of the edge

Complete:

Since, the base of the cube has the shape of a ……

The length of the cube's edge = area of the base ÷ ……= ….. ÷ ….= ….. cm

The lateral area of a cube = perimeter of the base × height

= …….. × …….= ……. cm^2

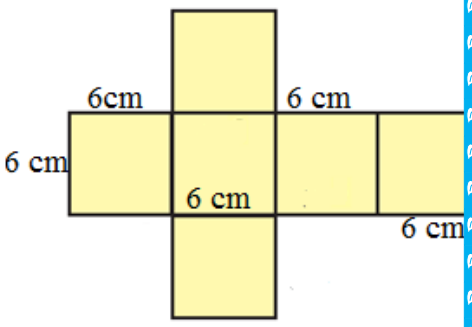
The total area of a cube = area of one face × 6

=……. × 6 = ……. cm^2

Worksheet (11)

Complete:

When you fold the opposite pattern, then



- The obtained solid is ……..
- The lateral area of the obtained solid = ……..
- The total area of the obtained solid = ……..

Worksheet (12)

A **cube** with a **lateral area** of 144 cm^2.

- Calculate the length of its edge then, calculate its total area.

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Worksheet (13)

A **cube** with a **total area** of 726 cm^2, calculate its lateral area.

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Worksheet (14)

If the **lateral area** of a **cube** is 36 cm^2. Calculate its total area .

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Worksheet (15)

A **cube** has a **base of perimeter** 28 cm. Calculate its lateral area and its total area.

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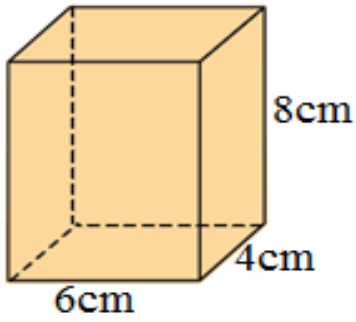
Worksheet (16)

A rectangular prism has the following dimensions, 6 cm in length, 4 cm in width and 8 cm in height.

- Calculate its lateral area and its total area.
- Complete:



The lateral area of a rectangular prism = the perimeter of the base × height.

= (length + width) ×2× height

= (…. + …..) ×2× ……

= ……. × …… = …….. cm^2

The lateral area of a rectangular prism = the lateral area + areas of the bases

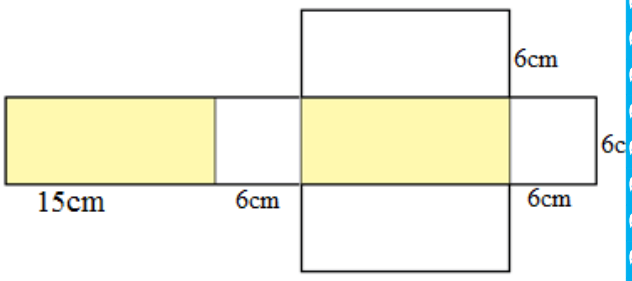
= …… + …….×……..

=…….. + …….. = ……. cm^2

Worksheet (17)

Complete:

When you fold the opposite pattern, then:



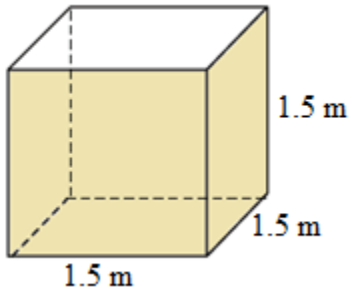
- The obtained solid is ……..
- The lateral area of the obtained solid = ……..

The total area of the obtained solid = …….

Worksheet (18)

A water tank of a cubic form, its inner length is 1.5 m, we want to paint the inner tank to protect it from rust, knowing that the cost of one painting square meter is 15 pounds.

Calculate the cost of painting the tank.



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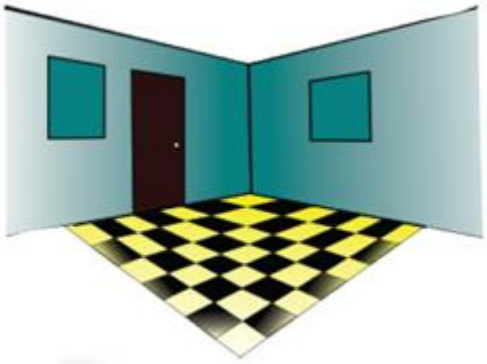
Worksheet (19)

A room in the shape of a rectangular prism, whose inner dimensions are: (5 m, 3.5 m and 3 m)

We want to paint its lateral walls.

Knowing that the cost of one square meter is 9 pounds.

Calculate the cost of painting it.



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Worksheet (20)

A **cube** has 10 cm of its edge, and a **rectangular prism** has 8cm of length, 5cm of width and 17 cm of height.

- Find the **difference** between the two lateral areas of both the cube and the rectangular prism.

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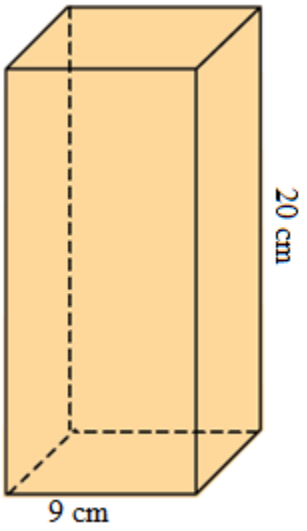
Worksheet (21)

A box in the form of a rectangular prism, its base in the form of a square with a side of 9 cm, and the height of this box is 20 cm.

- Calculate its **lateral area** and its **total area**.



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The topic (16): The properties of operations on integers

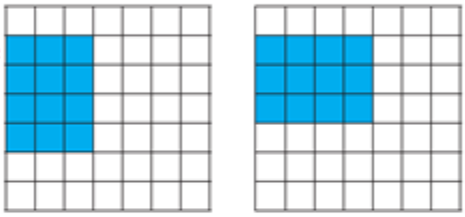
Worksheet (1)

Circle the appropriate property (or properties)		
Commutative property Associative property Additive identity property	13 + 15 + 20 = ...	15 + 20 + 13 = ...
Commutative property Associative property Additive identity property	....	0 + 4,502 = ...
Commutative property Associative property Additive identity property	....	(40 + 21) + 36 = ...
Commutative property Associative property Additive identity property	43 + 0 + 200 = ...	200 + 0 + 43 = ...

Worksheet (2)

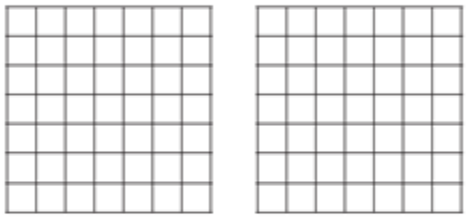
Express the following multiplication relations by using the matrixes in two different methods as in the example.

Example



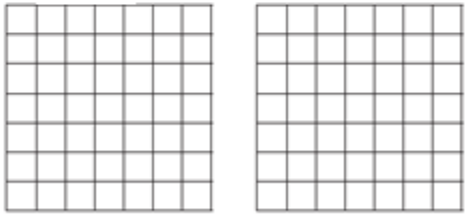
4 × 3 = 3×4

1



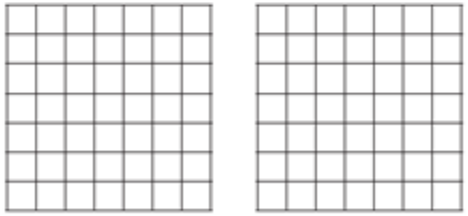
1 × 5 = ... × .....

2



7 × 4 = ... × .....

3

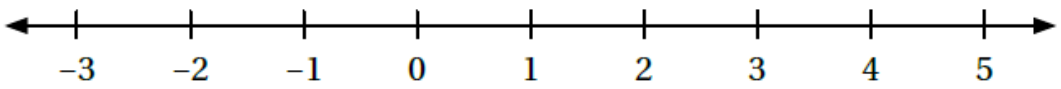


..... × ..... = 5 × 3

Worksheet (3)

Using the numerical axis: verify the Commutative property in the addition process

$$4 + (-2) = (-2) + 4$$



Worksheet (4)

Observe then complete:

A **28 + 65 = ...+ 28** (..... Property)

B **77 = ...+ 77** (..... Property)

C **(25 + 15) + 9 = 25 + (.... + 9)** (..... Property)

D **.... = 63 + 0** (..... Property)

Worksheet (5)

Calculate the following and name the used property

A $(45 + 5) + 7 =$ ..... (.....)

B $5 + 3 + 12 =$ ..... (.....)

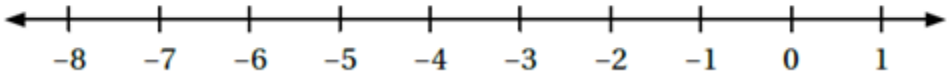
C $10 + 4 + 20 + 17 =$ ..... (.....)

D $27 + 44 + 13 + 65 =$ ..... (.....)

Worksheet (6)

Using the numerical axis: verify the associative property in the addition process

$$-4 + ((-3) + 2) = (-4 + (-3)) + 2$$



Worksheet (7)

Put (✓) in front of the correct statement and (✗) in front of the wrong statement:

A) Zero is the identity element of addition. ( )

B) $9 - 8 = 8 - 9$ ( )

C) The identity element of addition is 1. ( )

D) Associative property is a property of the addition ( )

E) Addition and subtraction have the same properties. ( )

Worksheet (8)

Complete by writing (is equal to) or (is not equal to) as in the example:

Example: 3 – 8 is not equal to 8 – 3

A) 399 + 10 …… 10+ 399

B) 28 – 0 ……. 0 – 28

C) 86923 + 0 ……. 86923

D) 7 + (100 + 752) ……. (7 + 100) + 752

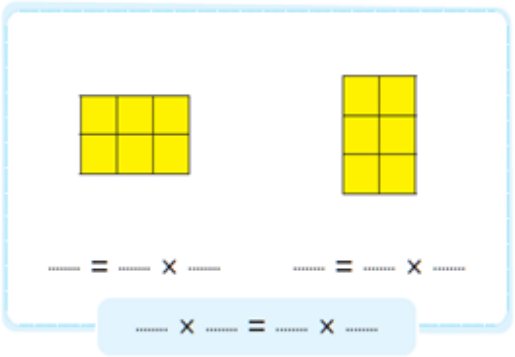
E) 30 – (50 – 100) ……. (30 – 50) – 100

F) 50 + (500 – 600) ……. (50 + 500) – 600

Worksheet (9)

Write the multiplication relation that express each grid hen complete :

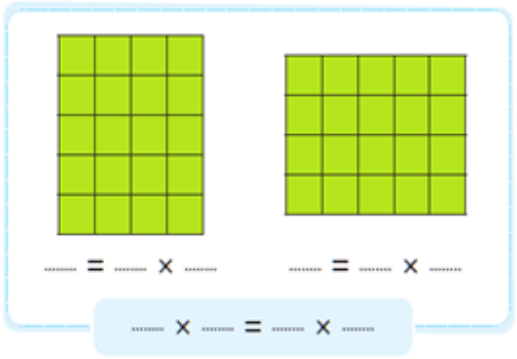
A



..... = ... × .... = ... × .....

..... × ..... = ... × .....

B



..... = ... × .... = ... × .....

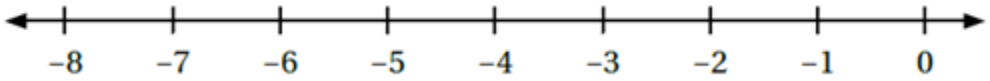
..... × ..... = ... × .....

what do you notice? .....

Worksheet (10)

Using the numerical axis: verify the Commutative property in the multiplication

$$3 \times (-2) = (-2) \times 3$$



Worksheet (11)

Write the missing number and name the used property:

A) ... = 0 × 3 …….. property

B) ... = 1 × 8 …….. property

C) ... = 0 × 75 …….. property

D) 5 × ... = 6 × 5 …….. property

E) 123 = 1 × ... …….. property

F) 0 = 300 × ... …….. property

G) ....× 3 = 3 × 600 …….. property

H) ... × 12 = 4 × ... …….. property

I) (5 × ....) × 4 = 5 × (2 × 4) …….. property

Worksheet (12)

Perform the following multiplication relations by using the distributivily property:

1 $127 \times 3 =$ .....

$=$ .....

$=$ .....

2 $508 \times 7 =$ .....

$=$ .....

$=$ .....

Worksheet (13)

Write the product in each of the following as in the example:

$$27 \times (-5) = -5 \times (20 + 7)$$
$$= (-5 \times 20) + (-5 \times 7)$$
$$= -100 + (-35) = -135$$

1 $875 \times (-7) = \ldots\ldots \times (\ldots\ldots + \ldots\ldots + \ldots\ldots)$

$= (\ldots\ldots \times \ldots\ldots) + (\ldots\ldots \times \ldots\ldots) + (\ldots\ldots \times \ldots\ldots)$

$= \ldots\ldots + \ldots\ldots + \ldots\ldots = \ldots\ldots$

2 $479 \times (-8) = \ldots\ldots \times (\ldots\ldots + \ldots\ldots + \ldots\ldots)$

$= (\ldots\ldots \times \ldots\ldots) + (\ldots\ldots \times \ldots\ldots)$

$+ (\ldots\ldots \times \ldots\ldots)$

$= \ldots\ldots + \ldots\ldots + \ldots\ldots = \ldots\ldots$

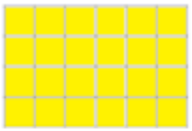
Worksheet (14)

Follow the example to complete the table :

	Dividend	Divisor	Division	Remainder
example	**12**	**5**	12 ÷ 5	2
A	20	4	.....	.....
B	.....	2	16 ÷ 2	.....
C	**30**	3	.....	.....
D	.....	.....	72 ÷ 9	.....

Worksheet (15)

Observe and complete :



The dimensions of the rectangle …. units and….. units

The dimensions of the rectangle …. units and ….. units

The sum of the areas of the two rectangles in two different methods

The first method:

The area of the rectangle = ... Square Unit

So :

..... = ... + ... =(..... × .....)+ (..... × .....)

The second method:

The area of the rectangle = ... Square Unit

So :

..... = ... × ..... = (..... + ...)× .....

Worksheet (16)

Calculate the following by taking out the greatest common factor:

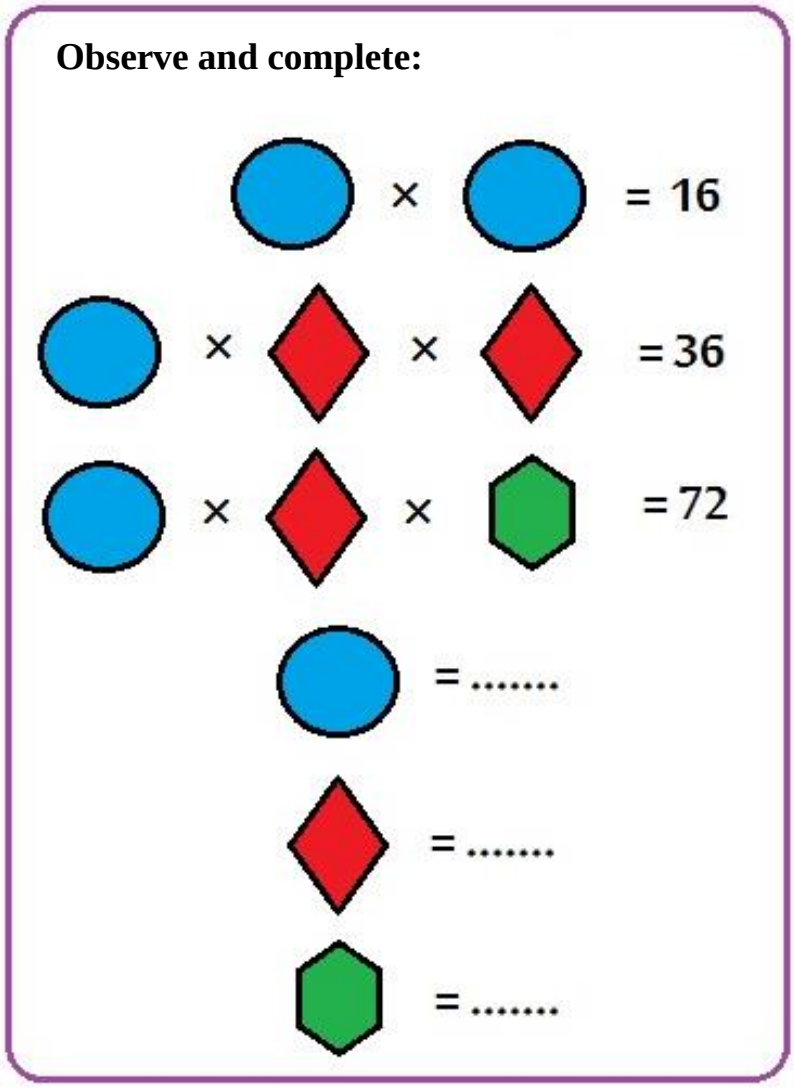
$7 \times 123 + 7 \times 35 - 7 \times 18 = ...$

$6 \times 245 + 6 \times 80 - 7 \times 25 = ...$

Topic (17): Algebraic and Mathematical Expressions.

Worksheet (1)

Observe and complete:



Worksheet (2)

Express the following statements by using symbols:

* The number x decreased by 8.
* Triple of number x increased by 5.
* Half of number x increased by 4.
* Third of number x increased by 7.

Worksheet (3)

Express the following statements using symbols:

* The double of number b increased by 8.
* The triple of number c increased by 10.
* Half of number x decreased by 7.
* The double of number a decreased by 15.

Worksheet (4)

Complete:

* Two numbers, one of them is more than the other by 5. If the smaller number is x, then the other number is = …….
* Two numbers, one of them is less than the other by 10. If the greater number is x, then the other number is = …….

Worksheet (5)

A library decided to decrease all the prices of its the books by 20 LBP each. (whatever its price was).

The following table shows the prices of some books before the discount, write the prices of these books after the discount.

Complete:

Price of the book before the discount	**50**	**85**	**70**	**105**
Price of the book after the discount	**30**	.....	.....	.....

In general, if we denote the price of the book before the discount by x S.L, then its price after the discount will be ... ...

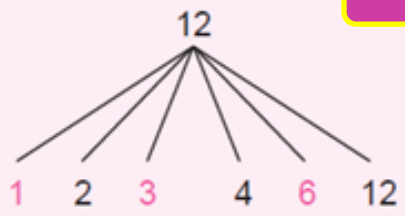
Worksheet (6)

Complete the following to get the divisors of each number following the given example:

(e)

- The divisors of 14 are... ... ...

example



- The divisors of 12 are: 1,2,3,4,6,12

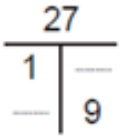
(d)

- The divisors of 24 are... ... ...

(c)

- The divisors of 18 are... ... ...

(b)



- The divisors of 27 are... ... ...

(a)

- The divisors of 16 are... ... ...

Worksheet (7)

Hala ate a bowl of salad and a piece of candy. If the bowl of salad has 50 calories, wri the algebraic expression that expresses the number of calories that Hala has got, then use this expression to find the total number of calories she got, if the piece of candies has 150 calories.

Complete:

The bowl of salad contains ……., and the piece of candies has unknown number of calories. — In words

The bowl of salad contains ……., and the piece of candies has x number of calories. — In symbols

……+ …….. — Algebraic expression

Worksheet (8)

The number of teeth of an adult is more than that of the child milk teeth by 12 teeth. Write an algebraic expression that represents the number of teeth of an adult. If the number of milk teeth is 20, then the number of adult teeth is?

Complete:

The number of adult teeth is more by……., The number of adult teeth (which is unknown).	In words
Number of milk teeth= ……, number of adult teeth is x.	In symbols
…… + …….. and if the number of milk teeth= ……, then: number of adult teeth = ……..	Algebraic expression

Worksheet (9)

The carpenter has a plank of wood, he divides it into pieces the length of each is 20 cm. Represent the number of pieces that he got into an algebraic expression, then use that expression to calculate the number of pieces, if the length of the plank is 120 cm.

Complete:

The plank of wood divides to pieces each length is ……., the length of the plank of wood is unknown number. — In words

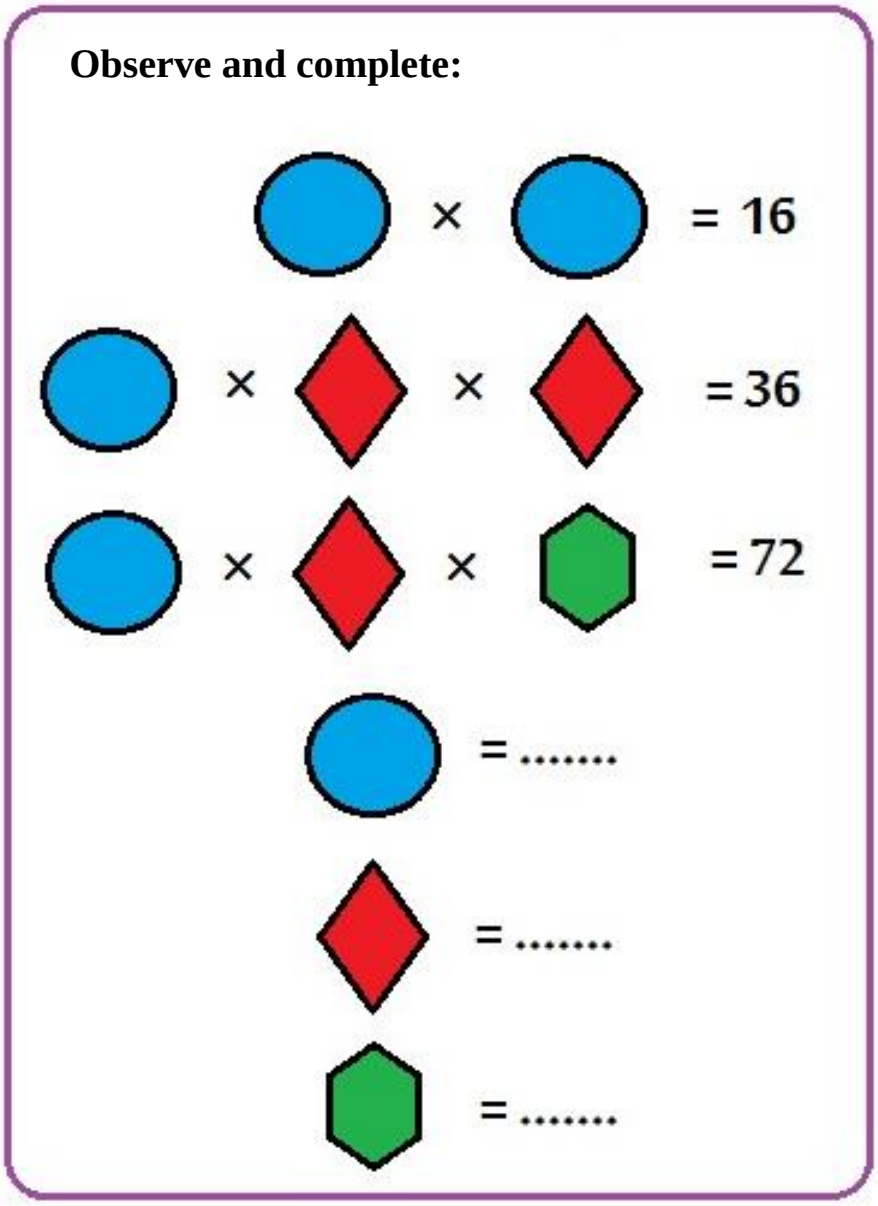
The plank of wood divides to pieces each is……., the length of the plank of wood is x number of pieces — In symbols

……÷ …… and if the length of the plank is 120 cm then the number of pieces are = ……. — Algebraic expression

The topic (18): Equations

Worksheet (1)

Observe and complete:



Worksheet (2)

Complete following the example:

Symbolic Expression	Literal expression (expressing in words)
$\square + 3 = 5$ or $a + 3 = 5$	**If you add 3 to a number the answer is 5, then the number will be … … ..**
$2 \times \triangle = 10$ or $2 \times b = 10$	.....
$\bigcirc \div 5 = 6$ or	.....
$\diamond - 8 = 9$ or	.....

Worksheet (3)

Use the model to represent the following algebraic expressions:

representing using the form:

* **Algebraic expression:** $x + 3$ …….
* **Algebraic expression:** $x - 3$ …….
* **Algebraic expression:** $2x$ …….
* **Algebraic expression:** $x \div 3$ …….

Worksheet (4)

Write the algebraic expressions that represents each of the following models:

Algebraic expression:

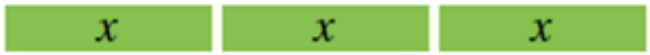
.....

Algebraic expression:

.....

Algebraic expression:

.....



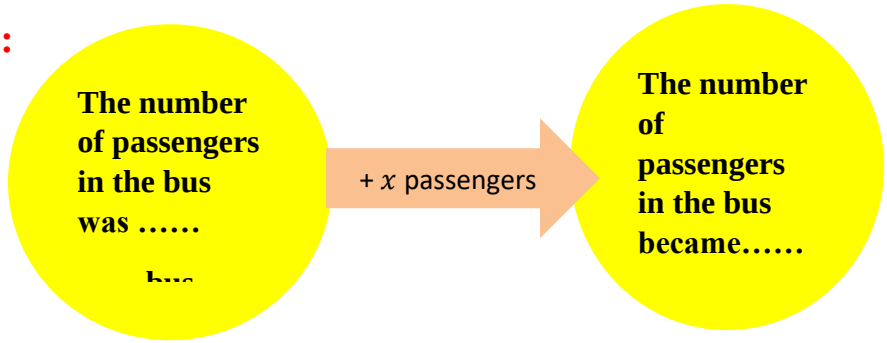
Algebraic expression:

.....

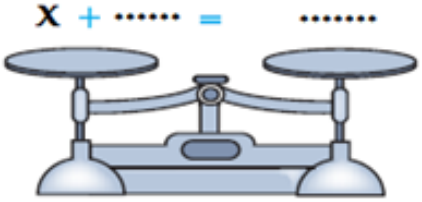
Worksheet (5)

A bus with 25 passengers. many passengers got on the bus, so that the number of passengers became 35. We can represent the following situation by:

Complete:



The following situation can be also represented by using the balance:

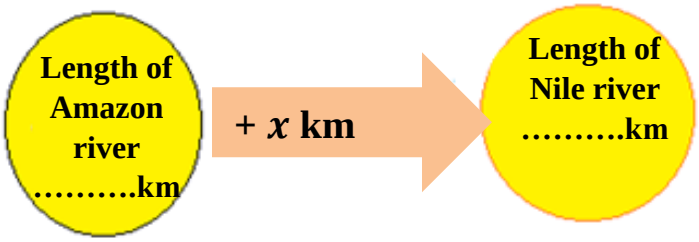


Worksheet (6)

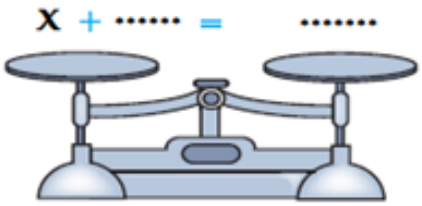
The length of the Nile river is 6650 km approximately. where its length exceeds the length of Amazon river by 250 km.

Write the equation to calculate the length of Amazon river.

Complete:

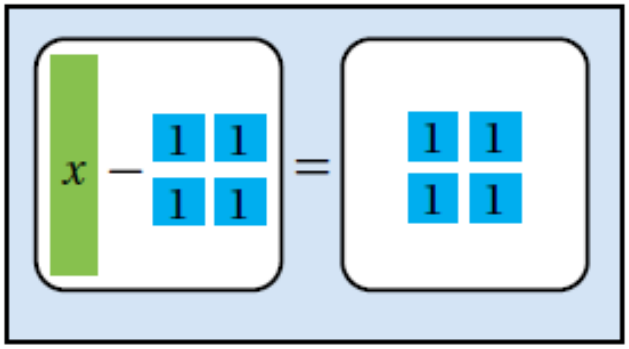


The following situation can be also represented by using the balance:



Worksheet (7)

Write the equation that is represented in each of the following equations board:



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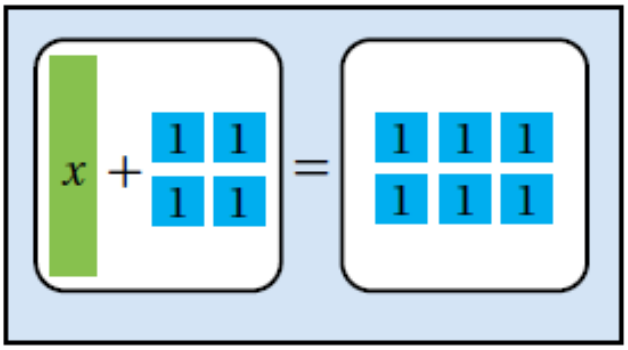

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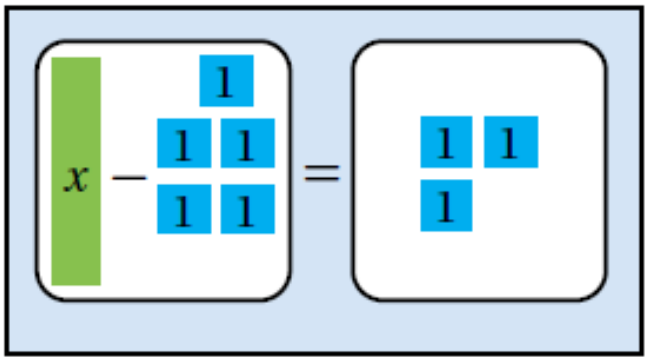
Worksheet (8)

Write the equation that is represented in each of the following equations board:



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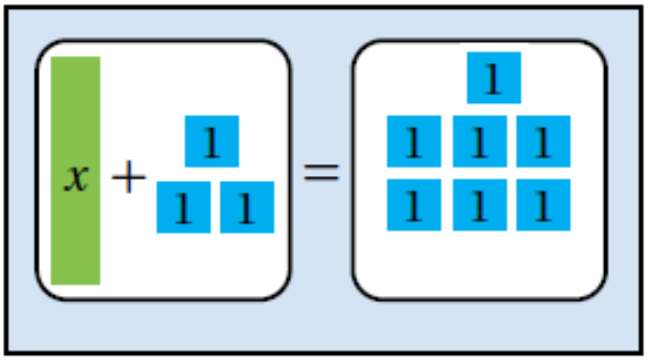

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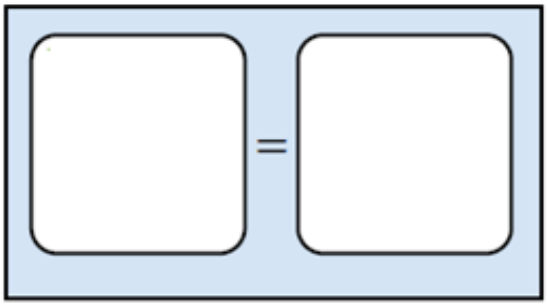
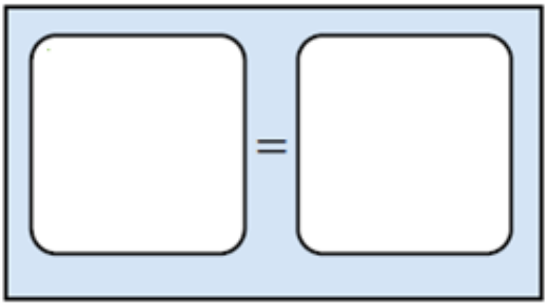
Worksheet (9)

Use the algebraic pieces and the equations board, to represent the following equations?

$$x + 2 = 10$$



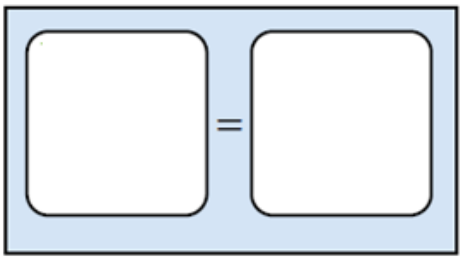
$$m - 7 = 9$$



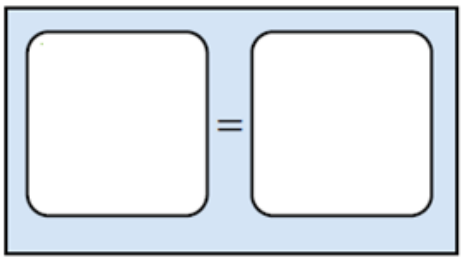
Worksheet (10)

Use the algebraic pieces and the equations board, to represent the following equations?

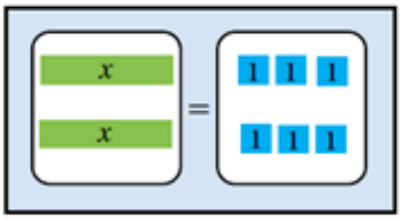
$$4 + y = 11$$



$$s - 2 = 8$$



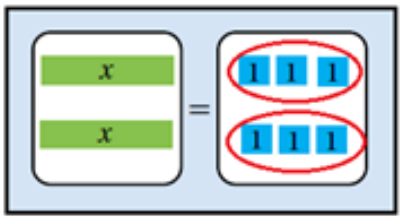
Worksheet (11)



Solve the following equation 2x = 6 by using the equations board and the algebraic pieces:

Step (1) expressing the equation by using the algebraic pieces:

How many piece of (1) can be linked to each (x) from the left side so that each (x) has equal number of (1) from the right side?



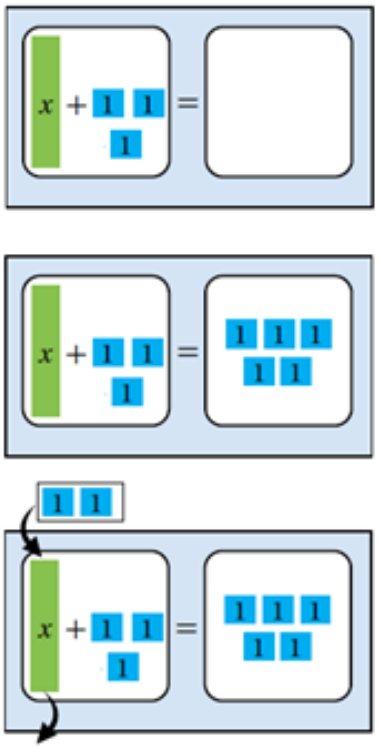
Step (2) finding the value of x:

When we link each rectangle (x) from the left side to the same number of squares of (1) from the right side.

Notice that each rectangle (x) connected to …….. squares.

Then: $x =$ …… is the solution of the equation.

Worksheet (12)



Solve the following equation $x + 3 = 5$ by using the equations board and algebraic pieces:

Step (1) expressing the value (x + 3) on the left side of the board by using the algebraic pieces:

Step (2) expressing the value 5 on the right side of the board by using the algebraic pieces:

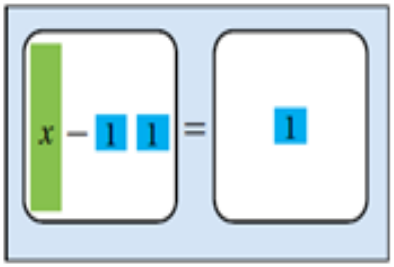
Step (3) finding the value of x:

the rectangle x can be replaced by squares (pieces of (1)) so that the number of pieces become equal in both sides of the equation.

Notice that we need ……. (pieces of (1)) instead of the rectangle (x)

Then: $x =$ …… is the solution of the equation.

Worksheet (13)

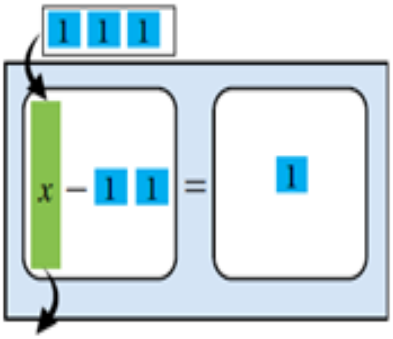


Solve the following equation $(x - 2 = 1)$ using the equations board and the algebraic pieces:

Step (1) expressing the equation x -2 = 1 using the algebraic pieces.

Step (3) finding the value of x:

Complete:

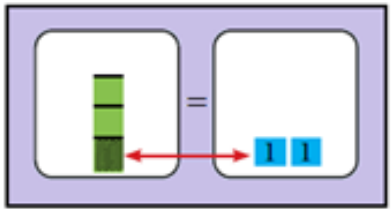


the rectangle x can be replaced by …….squares (the pieces of (1)) so that the equality is true.

Notice that we need ……. Squares instead of the rectangle .

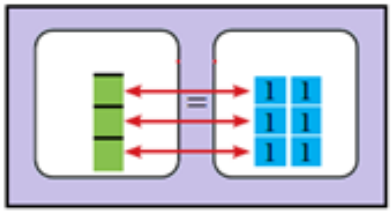
Then: $x =$ …… is the solution of the equation.

Worksheet (14)

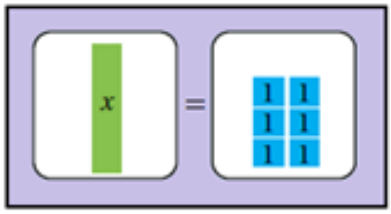


Solve the following equation x ÷ 3 = 2 using the equations board and the algebraic pieces:

Step (1) representing the left side of the equality (x ÷ 3) by dividing the rectangle that represents x to 3 equal parts and putting (1 1) next to each shaded part.



Step (2) putting (1 1) next to each part on the right side.



Step (3) Finding the value of x:

Complete:

Notice that the whole rectangle x is faced by …….. squares of (1).

Then: x = …….

The topic (19): Solving word problems about large numbers.

Worksheet (1)

Alexandria governorate produces of wheat is 1002560, while Asyut production is 2797380. Find the total quantity of wheat by the two governorates.

I understand

The givens:

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The required question:

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I plan:

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I solve:

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I check:

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Worksheet (2)

The following table shows the major exports in two years;

Major exports	First year	Second year
crude oil	3 100 151	2 622 668
raw cotton	175 234	146 660
cotton fabrics	236 938	272 321
Rice	191 133	134 764
Potato	142 228	108 295

- Find the total quantity of raw cotton exports during the first and second years?
- Find the total quantity of fabrics exported during the first and second years?
- Find the total quantity of crude oil exported during the first and second years?
- Find the total quantity of rice exported during the first and second years?
- Find the total quantity of potato exported during the first and second years?

I understand

The givens:

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The required question:

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I plan:

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I solve:

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I check:

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Worksheet (3)

A trip from Tripoli to Tyre . It covered 257 390 m then took a break for an hour then it continued covering 164 710 m then took another break for half an hour.

Finally, the trip reached Aleppo after covering another 216 270 m. Calculate the distance between Damascus and Cairo in meters.

I understand

The givens:

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The required question:

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I plan:

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I solve:

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I check:

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Worksheet (4)

The distance between two cities (A, B) is 3 552 200 m. The train started its trip from city (A) to city (B), if it passed a distance of 1 054 500 m approximately in an hour.

What is the remaining distance for the train to reach city B?

I understand

The givens:

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The required question:

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I plan:

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I solve:

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I check:

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Worksheet (5)

The following table shows the production of wheat of some Governorates in a year:

Governorate	Wheat production
Alexandria	102 560
Dakahlia	2 383 650
sea face	12 145 980
Al-Sharkiya	2 635 740
Asyut	1 797 380

(a) Find the difference between the quantities of wheat productions of Al Sharkiya and Alexandria governorates.

(b) Find the difference between the quantities of wheat productions of Dakahlia and Alexandria governorates.

(c) Find the difference between the quantities of wheat productions of Sea Face and Alexandria governorates.

(d) Find the difference between the quantities of wheat productions of Al Sharkiya and Asyut governorates.

I understand

The givens:

.....

.....

The required question:

.....

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I plan:

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I solve:

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I check:

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Worksheet (6)

The following is a table showing the population of Egypt for several years.

Read the following table then answer the following questions.

Year	Population
First	30 800 000
Second	50 250 000
Third	55 760 000
Fourth	67305400

Find the increase in the Egypt's population between:

- The first and second year.
- The second and third year.
- The first and fourth year.

I understand

The givens:

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The required question:

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I plan:

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I solve:

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I check:

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Worksheet (7)

A Fruit merchant has 49540 boxes of an apple. If the box weights 900 g, find the total mass of apples.

I understand

The givens:

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The required question:

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I plan:

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I solve:

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I check:

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Worksheet (8)

On Labors day, one of the biggest companies gave 450 pounds for each worker. Calculate the total money distributed for 7 280 workers.

I understand

The givens:

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The required question:

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I plan:

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I solve:

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I check:

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Worksheet (9)

If we want to distribute 9 825 200 pounds equally among 25 520 persons. What's the share of each person?

I understand

The givens:

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The required question:

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I plan:

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I solve:

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I check:

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Worksheet (10)

A citizen bought a car for 584 000 pounds, with the requirement of paying 275 480 pounds before hand, and he pays the rest in 36 equal installments.

calculate the value of one installment?

I understand

The givens:

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The required question:

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I plan:

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I solve:

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I check:

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Worksheet (11)

In an exhibition the number of Arabic books is 2 540 220 book and the number of English books is 750 450 book. What is the total number of books at the exhibition?

I understand

The givens:

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The required question:

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I plan:

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I solve:

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I check:

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Worksheet (12)

Complete the following table that represents the distribution of students in cycle 1 and cycle 2 in the years 1991/1992, 1992,1993.

year	boys	girls	total
91/92	3 599 454	2 942 755	
92/93	3 721 617	3 069 511	
difference			

I understand

The givens:

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The required question:

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I plan:

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I solve:

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I check:

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Worksheet (13)

A citizen has 2 175 615 pounds. He bought a house for 1 085 450 pounds, and a car for 120 594 pounds.

How much money does he have left?

I understand

The givens:

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.....

The required question:

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I plan:

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I solve:

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I check:

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Worksheet (14)

The distance between two cities (A, B) is 3 552 000 m. The train started its trip from city (A) to city (B). if it passed a distance of 1 054 500 m approximately **in an hour.**

What is the remaining distance for the train to reach city B?

I understand

The givens:

.....

.....

The required question:

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I plan:

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I solve:

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I check:

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Worksheet (15)

A merchant paid 4 500 000 pounds to buy 500 televisions. What is the cost of one-television?

I understand

The givens:

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The required question:

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I plan:

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I solve:

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I check:

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Worksheet (16)

The profits of a factory in a year are 1 225 000 pounds. It is distributed equally among 2500 workers. What's the share of each worker?

I understand

The givens:

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The required question:

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I plan:

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I solve:

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I check:

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The topic (20): Solving Word Problems on fractions and Decimal numbers

Worksheet (1) Diagnostics

The shape	The fraction	The ingredients
	$\frac{3}{4}$	sugar
	$\frac{1}{2}$	flour
	$\frac{2}{3}$	milk

- ✓ **The previous table shows the ingredients for making (one cake)**
- ✓ **Calculate the total mass of the ingredients needed to make (5 cakes).**

I understand

The givens: ……
……
The required question: ……
……

I plan:
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I solve:
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I check
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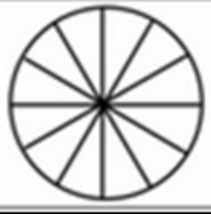
Worksheet (2)[1]

Complete adding the fractions with shading the answer.

	The fraction	The instructions	The addition relation
1)		Shade $\frac{3}{8}$, then shade $\frac{2}{8}$ Which fraction is shaded just now ? $\frac{5}{8}$	$\frac{3}{8} + \frac{2}{8} = \frac{5}{8}$
2)		Shade $\frac{3}{6}$, then shade $\frac{2}{6}$ Which fraction is shaded just now ? $\frac{\ldots\ldots}{6}$	$\frac{\quad}{6} + \frac{\quad}{6} = \frac{\quad}{6}$
3)		Shade $\frac{4}{9}$, then shade $\frac{3}{9}$ Which fraction is shaded just now ? $\frac{\ldots\ldots}{9}$	$\frac{\quad}{9} + \frac{\quad}{9} = \frac{\quad}{9}$
4)		Shade $\frac{4}{10}$, then shade $\frac{5}{10}$ Which fraction is shaded just now ? $\frac{\ldots\ldots}{10}$	$\frac{\quad}{10} + \frac{\quad}{10} = \frac{\quad}{10}$
5)		Shade $\frac{3}{12}$, then shade $\frac{5}{12}$ Which fraction is shaded just now ? $\frac{\ldots\ldots}{12}$	$\frac{\quad}{12} + \frac{\quad}{12} = \frac{\quad}{12}$

Worksheet (3)

Addition and subtraction of fractions

Calculate the following:

1) $\frac{7}{6} + \frac{2}{6} = \frac{\quad}{6}$

2) $\frac{7}{5} - \frac{4}{5} = \frac{\quad}{5}$

3) $\frac{9}{10} - \frac{7}{10} = \frac{\quad}{10}$

4) $\frac{7}{9} + \frac{6}{9} = \frac{\quad}{9}$

5) $\frac{8}{7} + \frac{6}{7} = \_\_\_\_$

6) $\frac{11}{4} - \frac{6}{4} = \_\_\_\_$

7) $\frac{12}{15} + \frac{7}{15} = \_\_\_\_$

8) $\frac{15}{12} - \frac{4}{12} = \_\_\_\_$

9) $\frac{11}{6} - \frac{7}{6} = \_\_\_\_$

10) $\frac{12}{9} + \frac{13}{9} = \_\_\_\_$

11) $\frac{19}{20} - \frac{13}{20} = \_\_\_\_$

12) $\frac{9}{7} + \frac{8}{7} = \_\_\_\_$

13) $\frac{24}{25} + \frac{13}{25} = \_\_\_\_$

14) $\frac{14}{11} - \frac{5}{11} = \_\_\_\_$

15) $\frac{15}{14} + \frac{16}{14} = \_\_\_\_$

16) $\frac{28}{30} - \frac{15}{30} = \_\_\_\_$

17) $\frac{8}{11} + \frac{7}{11} = \_\_\_\_$

18) $\frac{35}{50} - \frac{12}{50} = \_\_\_\_$

Worksheet (4)

Multiplying fractions

Calculate the following as the example:

Example $2\frac{2}{5} \times \frac{2}{3} = \frac{12}{5} \times \frac{2}{3} = \frac{24}{15} = \frac{8}{5}$

1) $2 \times 2\frac{2}{3} =$

2) $2\frac{1}{6} \times 5 =$

3) $2\frac{2}{3} \times 1\frac{3}{4} =$

4) $3\frac{1}{7} \times 1\frac{1}{4} =$

5) $\frac{3}{8} \times 1\frac{3}{4} =$

6) $1\frac{7}{8} \times \frac{4}{9} =$

7) $2\frac{2}{9} \times 3\frac{3}{4} =$

8) $2\frac{2}{3} \times 1\frac{5}{6} =$

Worksheet (5)

Dividing fractions

Read the following examples then complete the steps of division

Example 1 $2\frac{3}{4} \div 1\frac{2}{5} = \frac{11}{4} \div \frac{7}{5} = \frac{11}{4} \times \frac{5}{7} = \frac{55}{28}$

Example 2 $1\frac{2}{5} \div 4 = \frac{7}{5} \div \frac{4}{1} = \frac{7}{5} \times \frac{1}{4} = \frac{7}{20}$

1) $1\frac{1}{3} \div \frac{1}{2} = \frac{4}{3} \div \frac{1}{2} = \frac{4}{3} \times \frac{2}{1} = \frac{\quad}{3}$

2) $2\frac{3}{5} \div 3 = \frac{12}{5} \div \frac{3}{1} = \frac{\quad}{5} \times \frac{\quad}{3} = \frac{\quad}{15}$

3) $4\frac{1}{2} \div \frac{2}{5} = \frac{\quad}{2} \div \frac{2}{5} = \frac{\quad}{\quad} \times \frac{\quad}{\quad} = \frac{\quad}{\quad}$

4) $2\frac{4}{5} \div \frac{1}{3} = \frac{\quad}{\quad} \div \frac{1}{3} = \frac{\quad}{\quad} \times \frac{\quad}{\quad} = \frac{\quad}{\quad}$

5) $1\frac{1}{4} \div \frac{2}{7} = \frac{\quad}{\quad} \div \frac{\quad}{\quad} = \frac{\quad}{\quad} \times \frac{\quad}{\quad} = \frac{\quad}{\quad}$

6) $3\frac{2}{3} \div \frac{3}{5} = \frac{\quad}{\quad} \div \frac{\quad}{\quad} = \frac{\quad}{\quad} \times \frac{\quad}{\quad} = \frac{\quad}{\quad}$

Worksheet (6)

Addition of fractions and decimal numbers

1) 1928 .27 + 4293 .55	2) 2094 .06 + 1837 .75	3) 7382 .59 + 823 .68
4) 6308 .72 + 1839 .8	5) 8250 .95 + 2839 .47	6) 8372 .8 + 497 .49
7) 9382 .63 + 6308 .85	8) 3028 .29 + 8240 .75	9) 7385 .68 + 8297 .9
10) 670 .138 + 185 .372	11) 139 .743 + 382 .108	12) 738 .138 + 82 .527
13) 7362 .84 + 2831 .27 + 1093 .35	14) 6038 .08 + 3942 .75 + 1903 .24	15) 7263 .80 + 1980 .25 + 328 .75
16) 368 .473 + 129 .806 + 255 .324	17) 7380 .26 + 582 .85 + 1632 .09	18) 8925 .37 + 5248 .81 + 794 .36

Worksheet (7)

Subtraction of decimals

1)	82 .27 - 29 .55	2)	90 .45 - 32 .19	3)	17 .67 - 8 .28	4)	728 .5 - 175 .7
5)	603 .8 - 275 .4	6)	56 .70 - 24 .38	7)	83 .14 - 57 .62	8)	73 .75 - 48 .38
9)	70 .82 - 56 .79	10)	852 .4 - 97 .8	11)	35 .71 - 28 .9	12)	72 .40 - 33 .75
13)	603 .2 - 265 .8	14)	75 .4 - 17 .58	15)	63 .59 - 27 .3	16)	2 .473 - 1 .245
17)	5 .829 - 2 .377	18)	75 .54 - 47 .25	19)	9 .738 - 4 .284	20)	50 .02 - 19 .98
21)	76 .38 - 29 .75	22)	91 .05 - 16 .82	23)	6 .309 - 1 .954	24)	8 .053 - 3 .726

Worksheet (8)

Multiplying decimal numbers

1) 1.4 × 3 = .	2) 2.1 × 4 = .	3) 4.3 × 2 = .	4) 1.6 × 5 = .
5) 3.1 × 4 = .	6) 4.3 × 2 = .	7) 3.3 × 3 = .	8) 2.1 × 5 = .
9) 3.4 × 3 = .	10) 3.5 × 5 = .	11) 7.7 × 2 = .	12) 2.8 × 4 = .
13) 3.6 × 4 = .	14) 5.9 × 2 = .	15) 7.7 × 3 = .	16) 6.1 × 4 = .
17) 4.7 × 3 = .	18) 6.3 × 5 = .	19) 9.8 × 2 = .	20) 6.5 × 4 = .
21) 3.6 × 4 = .	22) 6.9 × 2 = .	23) 4.8 × 3 = .	24) 7.4 × 5 = .

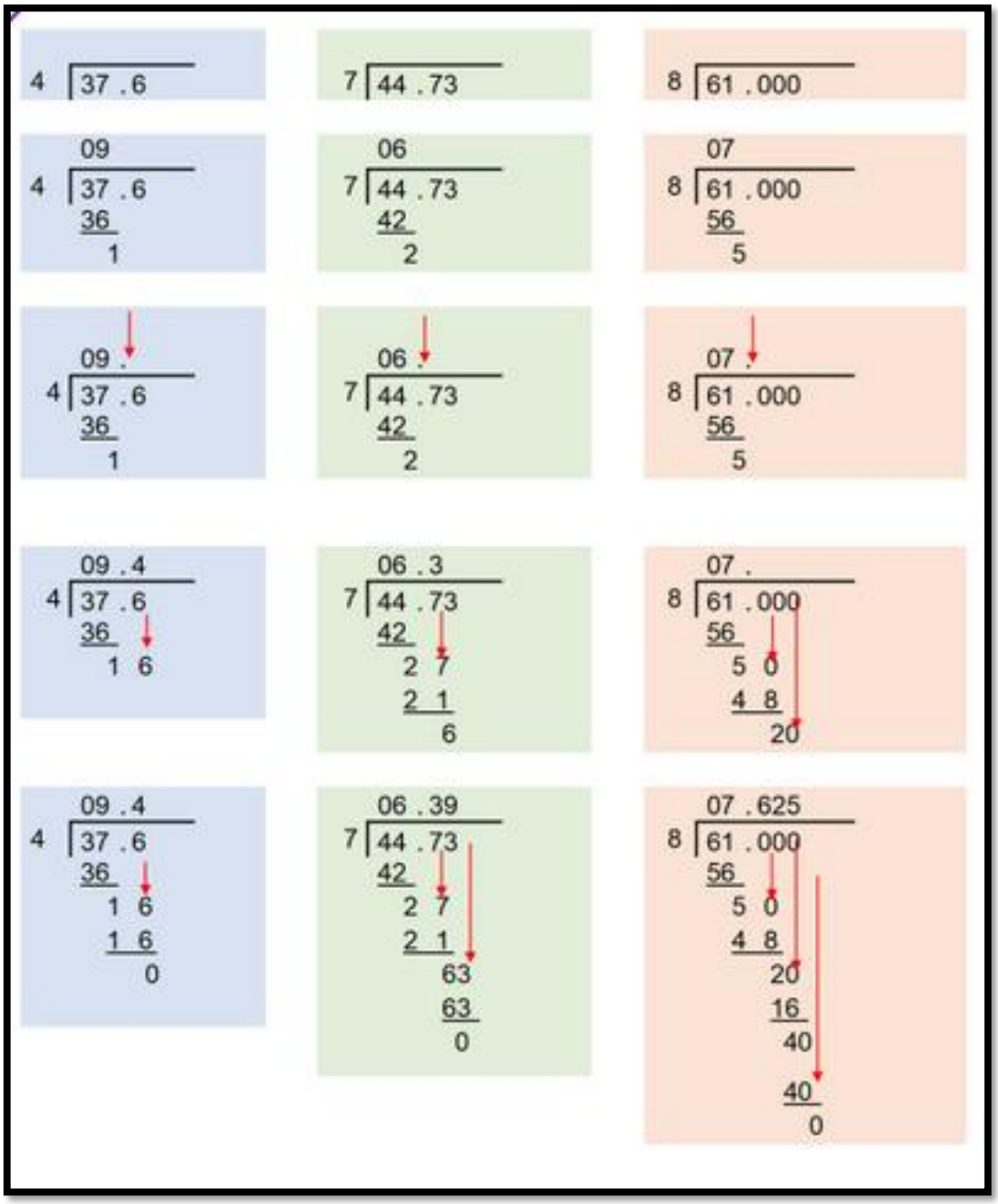
Worksheet (9)

Dividing decimal numbers

1)	2.4 ÷ 3	=	21)	12 ÷ 0.3	=
2)	1.2 ÷ 2	=	22)	8 ÷ 0.4	=
3)	0.6 ÷ 3	=	23)	28 ÷ 0.7	=
4)	2.4 ÷ 4	=	24)	63 ÷ 0.9	=
5)	3.5 ÷ 5	=	25)	56 ÷ 0.7	=
6)	2.1 ÷ 3	=	26)	3.2 ÷ 0.8	=
7)	1.4 ÷ 7	=	27)	4.8 ÷ 6	=
8)	2.7 ÷ 9	=	28)	54 ÷ 0.9	=
9)	4.2 ÷ 6	=	29)	4.9 ÷ 7	=
10)	5.4 ÷ 9	=	30)	8.1 ÷ 9	=
11)	2.1 ÷ 0.7	=	31)	42 ÷ 0.6	=
12)	1.5 ÷ 0.3	=	32)	3.5 ÷ 0.7	=
13)	5.6 ÷ 0.8	=	33)	5.4 ÷ 9	=
14)	0.8 ÷ 0.2	=	34)	36 ÷ 0.6	=
15)	3.6 ÷ 0.4	=	35)	72 ÷ 0.8	=
16)	2.1 ÷ 0.3	=	36)	40 ÷ 0.5	=
17)	4.5 ÷ 0.5	=	37)	6.3 ÷ 7	=
18)	8.1 ÷ 0.9	=	38)	2.7 ÷ 0.9	=
19)	4.8 ÷ 0.8	=	39)	5.6 ÷ 8	=
20)	3.0 ÷ 5	=	40)	64 ÷ 0.8	=

Worksheet (10)

Division of a decimal by a natural number



Worksheet (11)

The adjacent table shows the ratio of the areas of some cities in Jordan to the total area of the country.

Area ratio	City
4%	Almafraq
0.3	Karak
8%	Amman
$\frac{1}{20}$	Zarqa

1) Which of the two areas is the largest area, the area of Zarqa or the area of Amman?
2) Which of the two areas is the largest area, the area of Karak or the area of Almafraq?

I understand

The givens: …….....

The required question: ……
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I plan:
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I solve:
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I check:
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Worksheet (12)

Look at the following offers then answer :

Which of the two offers, represents the greater reduction on the price of the bag, the first offer or the second one?

Which of the two offers, represents the greater reduction on the price of the bag, the first offer or the third one?

I understand

The givens: ……

The required question: ……
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I plan:
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I solve:
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I check:
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Worksheet (13)

Majid participated in a running competition. In the first round, he covered $5\frac{3}{4}$ km. In the second round, he covered $4\frac{1}{2}$ km.

- Estimate the distance that Majid covered in kilometers.
- Calculate the distance that Majid covered.
- If the total distance of the race is 15 km, how much is left for Majid to finish the competition?

I understand

The givens:

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The required question: ……
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I plan:

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I solve:

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I check:

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Worksheet (14)

Observe the following table and then answer:

The bird	Wings(meter)	To the nearest m	The ordering of the lengths of wings
Albatrosse	3.72	4	1
Andy Condor	3.20		
Bearded Eagle	2.83		
golden eagle			
Big white swans	3.60		
white stork	1.80		
screaming swan			
Crane	2.29		

- Find the length of the wings of the golden eagle if it is 33 cm less than the length of the wings of the bearded eagle?

- Find the length of wings of the screaming swan if it is 48 cm larger than a crane?

I understand

The givens: .....

The required question:

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I plan:

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I solve:

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I check:

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Worksheet (15)

The corresponding table shows the population of some countries in 2017. (in million inhabitants).

- Estimate the population of Saudi Arabia and Jordan.

-Find the difference between the population of Tunisia and Lebanon.

- Find the total population of the UAE and Jordan to the nearest million?

the country	population (million inhabitants)
Saudi Arabia	32.61
Jordan	9.55
United Arab Emirates	9.27
Tunisia	11.31
Lebanon	6.01

I understand

The givens:

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……

The required question: ……

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I plan: ……

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I solve:

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I check:

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Worksheet (16)

Nadia bought 5 kilos of apples of a price **1.75** LBP for each kilo. If Nadia has 20 LBP, calculate the amount of money does she have left.

-Is it enough for Nadia to buy 3 books for 4.75 LBP each? Explain your

answer?

I understand

The givens: ……
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The required question: ……
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I plan:
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I solve:
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I check:
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Worksheet (17)

Najeh has 27.5 meters of fabric for the manufacture for the students' uniforms. If each uniform needs 1.25 meters of fabric. **- How many uniforms can he make?** **- How much meter of fabric does Najeh need to make 100 uniforms?**
I understand The givens: …… The required question: ……
I plan: ……..
I solve: …… …… …… ……
I check: …… ……

Worksheet (18)

If the annual subscription to a company that rents DVDs and computer games, is 10 LBP, the rental fee for the DVDs for the members was lower than the rental fee for non-members as shown in the following table.

Rent for members	Rent for non-members
2.5 LBP	3.2 LBP

If you know that Tawfik was a subscriber last year and he paid 52.2 LBP including the subscription fee. How much would he pay if he wasn't a subscriber and rented the same number of DVDs?

1- What did you understand from the problem?
2- Rephrase the problem in your own language.
3- How can you plan the solution?

I understand

The givens: …… .....
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The required question: ……..…….……
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I plan:

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I solve:

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I check:

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Worksheet (19)

If a cellular call costs 1.5 pound per 0.5 minutes or part of it, what is the cost of a call of (124) seconds? (every minute 60 seconds)

I understand: What did you understand from the problem?

I plan: How am I going to solve this problem?

I perform: I perform what I planned before.

I check: How can I check the solution?

I understand

The givens:
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The required question: ……
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I plan:
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I solve:
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I check:
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Worksheet (20)

Three sisters shared $6\frac{3}{4}$ LBP equally, what is the share of one each of them.

I understand: What did you understand from the problem?

I plan: How am I going to solve this issue?

I perform: I perform what I planned before.

I check: How can I checking the solution?

I understand

The givens: …… .....
the required question: ……
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I plan:
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I solve:
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I check:
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Worksheet (21)

The students of 6th grade agreed to donate equally to maintain their classroom. So, they bought 5 cans of paint at a price of 8.35 LBP for one can, and 17 meters of curtain fabric at a price of 4.65 for one meter, if the number of students in the class is 25 students, how much money does each one of them have to pay?

I understand

The givens: ...…….....
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I plan:
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I solve:
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I check:
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The topic (21): Graphical representation

Worksheet (1)

Represent the following data by using pie chart:

Type of preferred sport	
Sport	Number of students
Football	54
Volley ball	27
Tennis	15
Swimming	24

Worksheet (2)

Represent the following data by using pie chart:

Best-selling fuel	
Type	Percentage %
Bunsen 91	86
Bunsen 95	8
Diesel	6

Worksheet (3)

Represent the following data by using pie chart:

Blood type of a student in a school	
Type	Percentage %
O	44
A	42
B	10
AB	4

Worksheet (4)

Represent the following data by using pie chart:

Visitors of a zoo	
Visitors	Percentage %
Children	61
Women	27
Men	12

Worksheet (5)

Nada did a survey studying on the favorite snacks of a group of students in her school. The results are in the following table. Represent these data by using the pie chart.

Snacks	Chips	Fruits	Chocolate	Yogurt	Nuts
Average of eating					

Worksheet (6)

Represent the following data by using the pie chart:

The sold goods	
Type	Number
Spinach	13
Dates	11
Fruits	22
Vegetables	56
Others	9

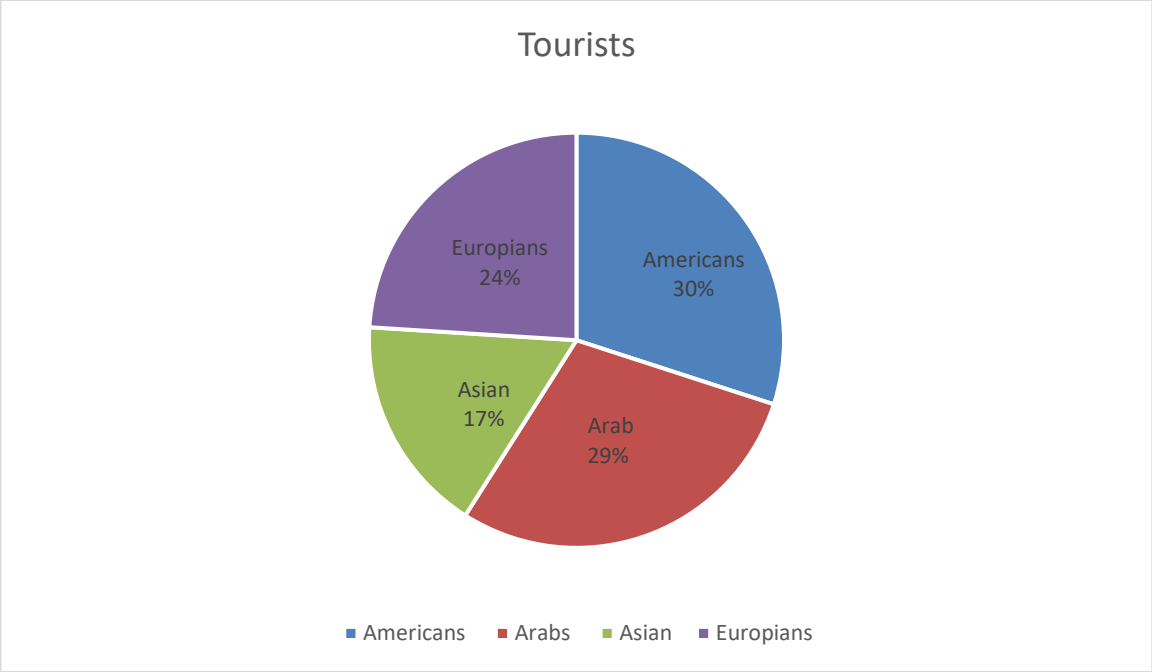
Worksheet (7)

Represent the following data by using the pie chart:

A day of the Omar' life	
Activity	Percentage %
School	25
Sleeping	33
School home works	12
Sports	8
Others	22

Worksheet (8)

The following shape is a pie chart representing the races of tourists which they visit some countries in 2015, observe the graph then answer the following questions.



- What is the most race of the tourists that visit the city?
- What is the least race of the tourists that visit the city?
- What is the percentage of Arab tourists visiting the city?

Worksheet (9)

The following table shows the percentages of some metals in a slug:

Metal	Iron	Cupper	Zinc	Nickel
Percentage	35 %	30 %	20 %	15 %

Represent these data in a pie chart.

Worksheet (10)

The following table shows the percentages of the production of a factory of three types of electric water heater.

Factory	First	Second	Third
Percentage of production	15 %	30 %	55 %

Represent these data in a pie chart.

Worksheet (11)

The following table shows the favorite TV programs that students of grade 6 prefer to watch during a month:

The programs	entertainment	educative	news	dramatic	Sports
The number of hours	9	5	4	7	11

Represent these data in a pie chart.

Worksheet (12)

Represent the following data by using the pie chart:

Favorite vegetables	
Type of vegetable	Percentage %
Carrots	45
Green peas	23
Chickpeas	17
Others	15

Worksheet (13)

The following table shows the number of medals were taken by Arab countries since 1928 to 2008 in Olympics. Represent these data in a pie chart.

Medals in Olympics	
Type	Number
Golden	22
Silver	21
Bronze	40

The topic (22): frequency table

Worksheet (1)

The following table shows the lengths of a group of teachers, organize these data in a frequency table.

173	178	186	163	171	193	169	179
195	171	190	163	156	195	166	167
195	184	169	172	159	187	186	156
167	174	162	178	155	179	168	159
182	163	189	162	179	159	177	193
186	170	159	187	173	189	167	181

Worksheet (2)

The following table shows the number of vacations of 40 workers they had in a year, organize these data in a frequency table.

5	8	17	12	26	15	20	5	18	16
21	25	30	21	22	23	30	26	12	5
23	13	12	26	12	11	28	12	15	27
14	23	24	10	12	20	5	28	29	6

Worksheet (3)

The following table shows the grades of 30 students in mathematics exam, organize these data in a frequency table.

44	46	27	25	30	31	50	34	33	32
40	38	22	31	33	50	35	29	50	23
40	22	26	29	22	21	46	47	32	20

Worksheet (4)

The following table shows the number of hospitals in 25 cities, organize these data in a frequency table.

8	12	60	79	48
53	18	54	25	36
13	16	23	30	30
49	14	22	44	35
13	20	38	24	28

Worksheet (5)

Represent these data in a frequency table.

The following table shows the temperature recorded in 40 cities on a day:

Temperature in degrees	20	22	24	26	28	Total
Number of cities	7	9	11	8	5	40

Worksheet (6)

The following table shows the grades of 50 students in mathematics exam in a month, the highest grade was 50.

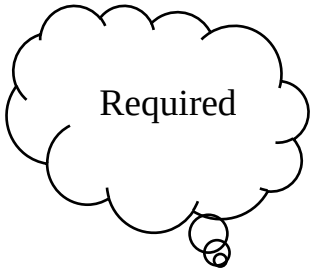
Groups	10	20	30	40	total
Frequency	8	14	16	12	50

Draw the frequency polygon representing these data.

Worksheet (7)

The following table shows the grades of a group of students in an exam.

Group	5	10	15	20	25	30	35	Total
Number of students	4	6	8	11	10	6	5	50



First: how many students got 30 or more?

Second: draw the frequency polygon of this table.

Worksheet (8)

The following table shows the ages of the museum visitors during the day-hours:

Age of visitor	10	20	30	40	50	total
Number of visitors	6	9	12	10	8	45

Draw the frequency curve representing these data.

Worksheet (9)

The following table shows the grades of 100 students in a science exam, represent these data using:

- Histogram
- Frequency polygon
- Frequency curve

Grades	0-9	10-19	20-29	30-39	40-49	-50	total
Frequency	6	15	12	26	23	18	100

Worksheet (10)

The following table shows the expected temperature in 30 cities in a summer day, represent these data using:

- Histogram
- Frequency polygon
- Frequency curve

The temperature in degrees	24-28	28-32	32-36	36-40	40-44	44-48
The number of cities	3	4	7	9	5	2

Worksheet (11)

The following table shows the grades of 30 students in a mathematics exam, represent these data in a frequency table, then, represent it graphically by using:

- Histogram
- Frequency polygon
- Frequency curve

33	20	31	27	23	26	39	31	37	25
27	36	27	24	33	21	37	23	37	35
32	28	21	32	31	25	37	30	26	32

Worksheet (12)

The following table shows the heights of some students in a school in cm, represent these data by using:

- Histogram
- Frequency polygon
- Frequency curve

The heights (cm)	The number of students
100- 110	**10**
110-120	**12**
120-130	**20**
130-140	**14**
140-150	**20**

Worksheet (13)

The following table shows the numbers of studying hours of some students, represent these data by using:

- Histogram
- Frequency polygon
- Frequency curve

The studying hours	1-3	3-5	5-7	7-9	9-11	11-13
The number of students	5	5	7	4	3	1