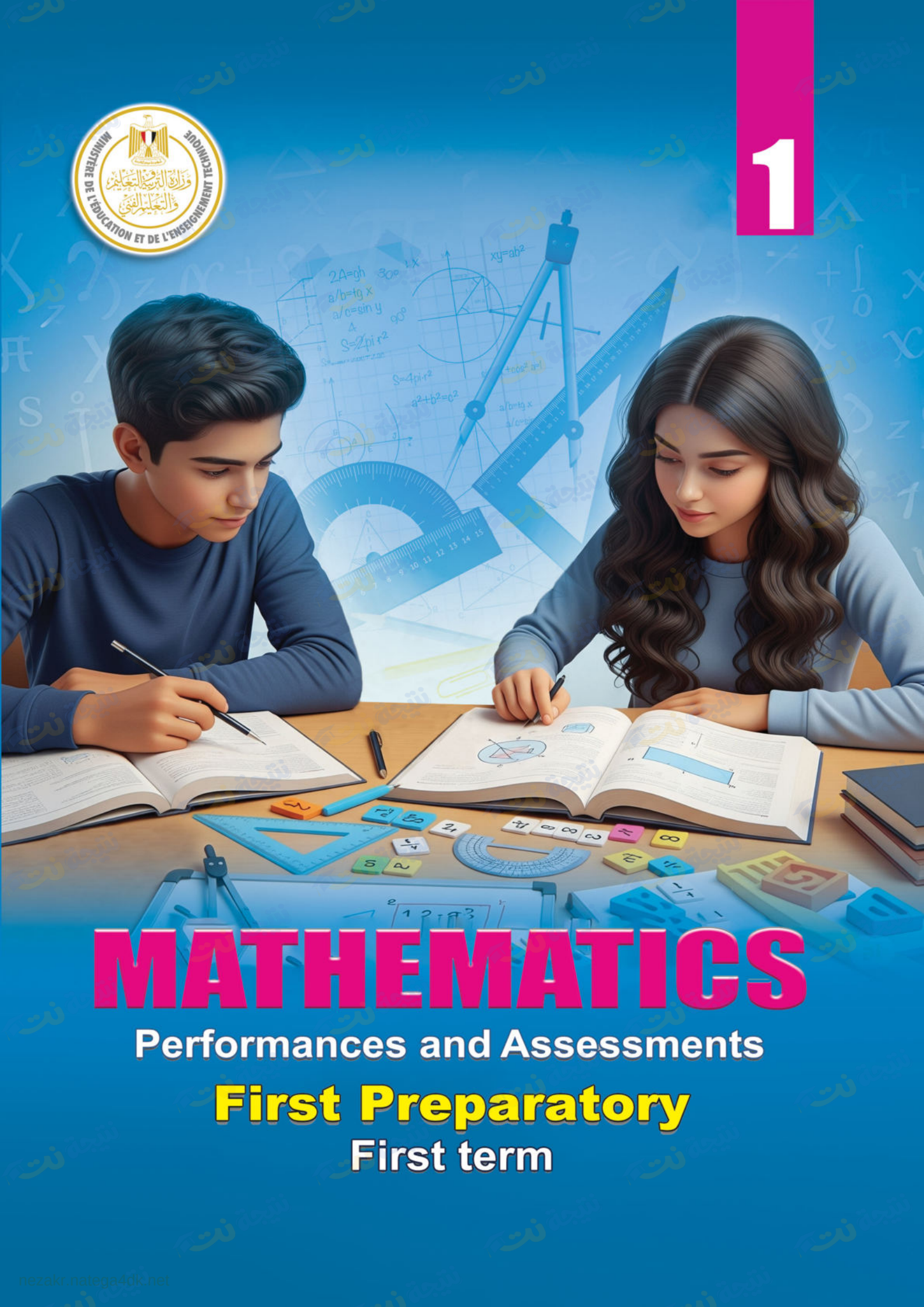

MINISTERE DE L'EDUCATION ET DE L'ENSEIGNEMENT TECHNIQUE
وزارة التربية والتعليم والتعليم الفني
1
MATHEMATICS
Performances and Assessments
First Preparatory
First term

The Ministry of Educataion and Technical Education
dedicates this book, with love to the students, teachers,
and families of the Arab Republic of Egypt



MATHEMATICS

Performances and Assessments

First Preparatory

First term

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Name : .....

Class : .....

School : .....

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Introduction

The Ministry of Education and Technical Education recognizes the importance of empowering teachers with effective tools that elevate classroom performance, enhance the quality of education, and improve its outcomes. This is a real response to the voices of teachers, interacting with the feedback channels from the educational field, and meeting the needs of teachers for flexible and comprehensive educational tools that assist them in fulfilling their noble educational mission.

This book has been designed to serve as an integrated educational support for teachers, helping them in planning and executing their teaching tasks efficiently. It also facilitates continuous assessment processes. The content has been designed to offer diverse models of effective classroom performance and educational activities created based on an interactive methodology that enhances active learning. It contributes to a qualitative shift in teaching practices, clearly focusing on the student as the core of the educational process.

The book includes formative and diagnostic questions, as well as purposeful learning tasks that students can complete as homework, enhancing the integration of learning inside and outside the classroom and contributing to the sustainable construction of learning for students. These tools help develop critical and creative thinking, deepen understanding, and support and enhance student motivation, giving them a sense of achievement and excellence.

It also includes short weekly tests and periodic assessments, allowing teachers to measure the extent of learning outcomes and address learning gaps early, providing feedback on the initial results. The performances at the end of each month are concluded with immediate training sessions that help improve student performance. These assessments are gradual, taking into account individual differences and targeting various levels of cognitive development, within a framework of diversity, depth, and integration, preparing students for monthly tests efficiently.

This book is a true translation of the Ministry's directions to ease the burdens on parents, provide supporting educational content that enriches the classroom environment, and allow teachers more time for educational innovation and productive interaction with their students. It also forms an effective tool in supporting the Ministry's direction to enhance learning outcomes, achieving a real transformation in the learning environment—from memorization to understanding, from rote learning to application, and from passive reception to active participation.

When we place this work in the hands of teachers and students, we hope it will be a valuable contribution to improving academic performance, enhancing the quality of education, and becoming an additional cornerstone in building a generation that is aware and knowledgeable, equipped with the skills and competencies needed for success in a world that demands creativity and innovation. It aims to have a tangible impact in realizing an ambitious educational vision for the future of education in our beloved country.

Allah is the one sought for help, and He guides to the right path...

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Unit (1) | Week (.....) | Lesson (1) Proportion | Date: / /

Classroom performance:

Activity (1): Delicious Juice



Ahmed asked his mother for a cup of orange juice. She went to prepare it and she used 2 oranges and 4 spoons of sugar for one cup. The next day, his brother asked to have orange juice with him, so Ahmed went to prepare it.

Help Ahmed figure out how many oranges he needs to use to make 2 cups of juice, and how many spoons of sugar they need to get the same taste as the juice his mother prepared for him. (Assume the oranges are of the same mass.)

Activity (2): Travelling and Fuel



Marwan traveled with his family by car to spend the summer holiday in Alexandria. If the car needs 5 liters of gasoline to cover a distance of 50 km, what is the amount of gasoline the car needs for the trip if the distance from home to Alexandria is 200 km?

(Collaborate with your classmate to find the solution.)

Activity (3): Reading Challenge





Salma reads 10 pages in 30 minutes, and Mary reads 5 pages in 20 minutes. Work with your group to find out the time in hours each of them needs to read a 120-page book.

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Home Performance (H.W):

1) If $\frac{2}{3}=\frac{6}{k}$, find the value of k.

2) If 100 grams of chocolate provide 300 calories, find the number of calories in 30 grams of the same type of chocolate.

3) If $\frac{n-2}{3}=\frac{3}{18}$, find the value of n.

4) If the quantities a, 2, 5, and b are proportional, find the value of a × b.

5) A person writes 50 words in 30 minutes. How many words does he write in two hours?

Unit (1) | Week (.....) | Lesson (2) Applications of Ratio and Proportion | Date: / /

Classroom performance:

Activity (1): GPS



Mohab turned on his GPS to go from his home in Nasr City to his work in the New Administrative Capital. The GPS gave him a distance of 60 km. When he measured the distance on a map, he found it to be 6 cm. Write a proportion that expresses the ratio between the distance on the map and the actual distance.

Activity (2): A boy and a girl

A school has 3 classes for the first preparatory grade. The number of students in each class is 36. In the first class, boys and girls are divided in a ratio of 1:1. In the second class, the ratio is 2:1, and in the third class, the ratio is 3:1. Collaborate with your colleague to find the number of boys and girls in each of the three classes.

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Activity (3): Buying Opportunity



Amira went to buy a mobile phone. In the first store, she found the price of the device was 6,000 L.E with a 15% discount. In the second store, the price of the same device after the discount was 5,000 L.E. In the third store, she found the price of the same device was 4,500 L.E with an additional 14% tax on the price. Cooperate with your group in the class to find the best offer for Amira.

Home Performance (H.W):

1) If the scale of a map is 1:200,000 and the distance between two cities on the map is 3.5 cm, find the actual distance between the two cities in kilometers.
2) If the length of an insect in an enlarged picture is 12 cm, and its real length is 3 mm, find the scale of the picture.
3) Three people shared in a project with a capital of 750,000 L.E in the ratio of 3:5:4. Calculate the amount of money each person shared in the capital.
4) If the ratio of the side lengths of a triangle with a perimeter of 150 cm is 3:5:7, find the length of its longest side.
5) A television screen was offered in the sales season with a 20% discount. If the price of the screen was 12,000 L.E, what is its price after the discount?

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Weekly Assessment – Week .....

Group (A)

First: Choose the correct answer:

1) If $\frac{10}{60}=\frac{15}{b}$ what is the value of b ?

a) 90 b) 30 c) 60 d) 120

Second: Answer the following:

1) If the drawing length is 3 cm and the real length is 18 meters. Find the drawing scale.

2) Jalal bought 10 pens for 70 L.E . How many pens of the same type can he buy with 119 L.E?

3) A meal costs 180 L.E and a 15% profit is added to the cost of the meal. What is the selling price of the meal?

4) A man wanted to distribute 3,600 L.E between two people in a ratio of 3:2. What would be the share of each person?

Group (B)

First: Choose the correct answer:

1) If $\frac{3}{4}=\frac{15}{y}$ find the value of y .

a) 100 b) 20 c) 60 d) 75

Second: Answer the following:

1) If the length in a drawing is 2 cm and the real length is 6 meters. Find the drawing scale.

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2) If an amount of 1080 EGP is divided between two people in a ratio of 7:5, what is the share of each person?

3) An object weighs 120 Newtons on Earth. If you know that its weight on the moon is 20 Newtons, what would be the weight of another object on the moon if its weight on Earth is 90 Newtons?

4) A man bought goods for 3,000 EGP and sold them for a profit of 10%. What is the selling price after adding the profit?

Group (C)

First: Choose the correct answer:

1) Find the value of a if $\frac{3}{5} = \frac{6}{a}$

a) 9 b) 30 c) 12 d) 10

Second: Answer the following:

1) If the drawing scale is 1:1,000 and the length in the drawing is 2.5 cm, what is the real length?

2) A piece of land with an area of 36 acres was divided between two people in a ratio of 7:2. What is the share of each person?

3) In a factory, 10 workers produce 300 pieces of cloth. How many workers are needed to produce 630 pieces?

4) Khaled bought a car for 300,000 EGP and then sold it for a 5% profit on the purchase price. Calculate the selling price of the car.

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Unit (1) | Week (.....) | Lesson (3) Sets and Their Operations | Date: / /

Classroom performance:

Activity (1): Fruit Festival

Ashraf and Sara went to the fruit store to buy fruit. Ashraf bought strawberries, bananas, and apples, while Sara bought bananas, grapes, and apples.

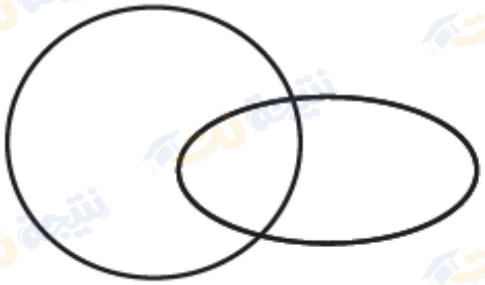



1. How many types of fruit were bought from the store in total?
2. What is the name of the fruit that Ashraf and Sara both bought?

Activity (2): Mad Numbers

The numbers 2, 4, 6, 8, 10 are even numbers.
The numbers 2, 3, 5, 7 are prime numbers.

Collaborate with your classmate to place all the previous numbers in the Venn diagram shown. What does the intersected area of the Venn diagram represent?



Activity (3): Arab Countries and the Colors of Their Flags

Learn about the flags of some Arab countries. Identify using the listing method which countries have red as one of the colors that make up their flag.

(Collaborate with your groupmates to identify other Arab countries whose flags also contain the color red.)



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Home Performance (H.W):

1) Write using the listing method the set of the digits of the number 22584

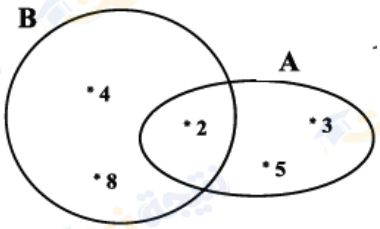
2) If A= { 1 , 3 , 5 } , B = { 1 , 2 , 3 , 7 } Find:

(1) A ∩ B (2) A U B

3) If { 1 , 3 , x } = { 7 , 1 , y } Find: ax + y

4) Find all the subsets of the set { 1 , 4 }

5) Using the given Venn diagram, complete by writing the appropriate symbol $\not\subset , \subset , \notin , \in$:



1) 4……. A 2) { 3 } …… B

3) 2 …… B 4) { 5 } …… A

Weekly Assessment –Week ……

Group (A)

First: Choose the correct answer:

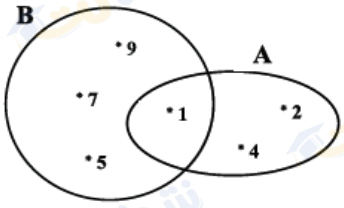
1) If $x \in \{8, 2, 5\}$ then the value of x cannot be equal to:

a) 3 b) 5 c) 8 d) 2

Second: Answer the following:

1) If { 1 , 3 , x } = { 7 , 1 , y } what is the value of x – y ?

2) Use the opposite Venn diagram to find:



(1) A ∩ B (2) A U B

3) Write all the subsets from the set { 3 , 9 }

4) If A= {1 , 7 , 9 } , B = { 4 , 2 , 7 } and C = { 1 , 7 }. Find:

(1) A ∩ B ∩ C (2) A U B U C

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Group (B)

First: Choose the correct answer:

1) If $x \notin \{1, 3, 4\}$ then the value of x can be equal to:

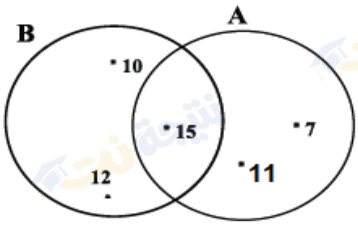
a) 3 b) 5 c) 4 d) 1

Second: Answer the following:

1) If { 6 , 3 , x , 7 } = { 3 , 5 , y , 6 } what is the value of y – x ?

2) Use the opposite Venn diagram to find:

(1) A ∩ B (2) A U B



3) Write all the subsets from the set { 1 , 8 }

4) If A= {1 , 5 , 8 } , B = { 4 , 5 , 7 } and C = { 1 , 5 }. Find:

(1) A ∩ B ∩ C (2) A U B U C

Group (C)

First: Choose the correct answer:

1) If $7 \in \{x+2, 3, 4\}$ then x = ...

a) 4 b) 5 c) 7 d) 2

Second: Answer the following:

1) If { 6 , 3 , a , 7 } = { 3 , 5 , b , 6 }. What is the value of a + b ?

2) If A= { 8 , 6 , 7 } , B = { 1 , 8 , 3 , 2 } . Find:

(1) A ∩ B (2) A U B

3) Write all the subsets from the set { 3 , 6 }

4) If A= {7 , 9 , 8 } , B = { 4 , 5 , 7 } and C = { 1 , 7 , 8 }. Find:

(1) A ∩ B ∩ C (2) A U B U C

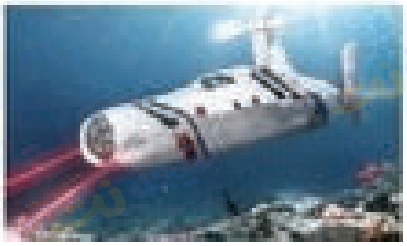
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Unit (1) | Week (.....) | Lesson (4) Operations on Integers | Date: / /

Classroom performance:

Activity (1): Depths of the seas

A submarine is at a depth of 100 meters below sea level. It ascends 40 meters. What is the submarine's new depth?



Activity (2): Hot & Cold

The maximum temperature in Cairo on a certain day was 25 degrees Celsius. It then dropped during the night to 15 degrees Celsius. Calculate the temperature after the drop.



Home Performance (H.W):

1) Use the addition properties in Z to find the result of: (-10) + 2 + (-8) + 6

2) If a = 4 , b = -5 , c = 2 . Find the value of : 2a + b + c

3) Use the multiplication properties in Z to find the result of: (-2) × 10 × (5)

4) Two integer numbers their product is (-25) and their sum is zero. What are the two numbers?

5) If x = 9 , y = -6 , z = -5 . Find the numerical value of the expression: (3y ÷ x) × z

Performances and Assessments

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Weekly Assessment – Week ……

Group (A)

First: Choose the correct answer:

1) -5 – (-3) = ……

a) 2 b) -8 c) 8 d) -2

Second: Answer the following:

1) If a=| -2 | , b = -5 . What is the value of ab ?

2) Use the addition properties in Z to find the result of: (-10) + 2 + 10

3) If a = 3 , b = 8 , c = -7 . Find in simplest form the value of the expression:
(2a + b) ÷ c

4) If A= 10 , b = -5 . Find the result of :

(1) | ab | (2) | b + a | (3) 15 ÷ b

Group (B)

First: Choose the correct answer:

1) -7 – (-1) = ……

a) 8 b) -8 c) 6 d) -6

Second: Answer the following:

1) If a=| -4 | , b = -3 . What is the value of ab ?

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2) Use the addition properties in Z to find the result of: (-25) + 1 + 25

3) If a = 2 , b = 5 , c = -2 . Find in simplest form the value of the expression:
(a + 2b) ÷ c

4) If A= 15 , b = -2 . Find the result of :
(1) | ab | (2) | b + a | (3) 12 ÷ b

Group (c)

First: Choose the correct answer:

1) -6 – (-1) = ……

a) 5 b) -5 c) 7 d) -7

Second: Answer the following:

1) If a=| -9 | , b = -1 . What is the value of ab ?

2) Use the addition properties in Z to find the result of: (-17) + 3 + 17

3) If a = 1 , b = 7 , c = -3 . Find in simplest form the value of the expression:
(5a + b) ÷ c

4) If A= 12 , b = -4 . Find the result of :
(1) | ab | (2) | a + b | (3) 24 ÷ b

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Unit (1) | Week (.....) | Lesson (4) Operations on Rational Numbers | Date: / /

Classroom performance:

Activity (1): Overload



The mother asked her daughter, Salma, to go to a market to buy some household necessities: 8.5 kg of rice, $3\frac{1}{2}$ of sugar, 2.25 kg of flour and $1\frac{1}{2}$ kg of laundry detergent. After she finished shopping, she noticed that the shopping cart has a sign that it could not carry more than 10 kg. How can you help Salma transport the items? (Collaborate with a classmate).

Activity (2): Before you answer, think carefully and don't rush



Hani's house is 1.5 kilometers away from his school. One day, his friend Ahmed stopped at a library to buy some school supplies. The library is $\frac{1}{2}$ kilometers away from the school. Hani asked him about the remaining distance to the school. Ahmed replied, "There are $\frac{1}{4}$ kilometers left."



What do you think about Ahmed's answer? What advice would you give him?

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Home Performance (H.W):

Answer the following questions:

1) Find the result of each of the following:

a) $\frac{3}{5}+\frac{2}{3}$ b) $7.3-2.2$ c) $\frac{3}{7}+(\frac{-6}{7})$

2) Find the result of each of the following:

a) $\frac{-1}{3}+\frac{1}{12}+\frac{5}{3}$ b) $5\frac{1}{2}-4\frac{1}{4}$

3) Find the result of each of the following:

a) $75\%+|\frac{-3}{4}|$ b) $0.45-\frac{2}{10}$

4) Find the result of each of the following:

a) $\frac{5}{3}\times\frac{12}{15}$ b) $\frac{-10}{3}\div\frac{-5}{3}$ c) $\frac{1}{8}\div\overline{0.1}$

5) Ahmed bought a red piece of cloth 7.5 meters long, and the price of meter was 20 EGP. Answer the following:

a) What is the total price of the piece of cloth?

b) If Ahmed gave his brother 2.25 meters of it, what is the length of the remaining piece?

c) If Ahmed bought another piece of blue cloth 3.75 meters long, what is the total length of both pieces?

d) If Ahmed divided the red piece of cloth into 5 equal parts, what is the length of each part?

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Weekly Assessment – Week .....

Group (A)

First- Choose the correct answer:

1- The result of subtracting $\frac{3}{5}$ from $\frac{7}{10}$ equal to .....

a) $\frac{4}{5}$ b) $\frac{1}{5}$ c) $\frac{1}{10}$ d) $\frac{-4}{5}$

Second- Answer the following:

1- What is the multiplicative inverse $3\frac{1}{2}$?

2- Using properties of addition in Q to find the result of: $\frac{-4}{10}+\frac{-1}{4}+\frac{2}{10}+\frac{1}{4}$ in its simplest form.

3- If: $x=\frac{-2}{4}, y=\frac{4}{9}$, fid the result of $2x+y$ in its simplest form.

4- Find in its simplest form the value of: $(\frac{3}{5}+\frac{-1}{5})\div\frac{4}{10}$

Group (B)

First- Choose the correct answer:

1- The result of subtracting $\frac{1}{4}$ from $\frac{3}{4}$ equal to .....

a) $\frac{5}{4}$ b) $\frac{1}{2}$ c) $\frac{1}{4}$ d) $\frac{-1}{2}$

Second- Answer the following:

1- What is the multiplicative inverse $4\frac{1}{2}$?

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2- Using properties of addition in Q to find the result of: $\frac{-4}{6}+\frac{-1}{3}+\frac{2}{6}+\frac{1}{3}$ in its simplest form.

3- If $x=\frac{-2}{5}, y=\frac{6}{5}$. , fid the result of $3x+y$ in its simplest form.

4- Find in its simplest form the value of: $(\frac{5}{7}+\frac{1}{7})\div\frac{12}{14}$

Group (C)

First- Choose the correct answer:

1- The result of subtracting $\frac{1}{7}$ from $\frac{8}{7}$ equal to .....

a) 1 b) $\frac{9}{7}$ c) -1 d) $\frac{-9}{7}$

Second- Answer the following:

1- What is the multiplicative inverse $7\frac{1}{2}$?

2- Using properties of addition in Q to find: $\frac{-4}{3}+\frac{-1}{9}+\frac{5}{3}+\frac{1}{9}$ in its simplest form.

3- If: $=\frac{-2}{7}, y=\frac{8}{7}$. , find the value of: $4x+y$ in its simplest form.

4- Find in its simplest form the value of: $(\frac{3}{11}+\frac{1}{11})\div\frac{4}{33}$

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Unit (2) | Week (.....) | Lesson (1) Mathematical Expressions and Formulas | Date: / /

Classroom performance:

Activity 1 (Enjoy your vacation and learn):



Malik traveled with his family to spend the summer vacation in Marsa Matrouh It is 439 km away from Cairo, so the distance was covered in 5 hours. At the end of the trip, the father asked him: How can the approximate speed are calculated? Which car was driving? (Help Malik on your own to answer)

Activity 2 (Riddle):



Ahmed asked his friend Muhammad: How tall is the Cairo Tower? Muhammad told him I will tell you a phrase in the form of a puzzle, by solving which you can determine the height of a tower Cairo. Muhammad said: If we subtract the number 87 from the height of the Cairo Tower, then we...

We get a number representing ten tens? In cooperation with Shoulder partners, help Ahmed answer?

Home Performance (H.W):

Answer the following:

1- Express each of the following in a mathematical form:

a. Five times the number x plus three times the number y.

b. A sign saying speed x does not exceed 100 km/h

c. Half the number x plus 3 equals 8

d. The area of a rectangle if the length x and the width y.

2- Write the like terms (if any) in each group of the following:

a) $8x$, $3xy$, $6y$

b) $6a$, $7a^2$, $8a^2$

c) $9ab$, $5b$, $9ab$

d) $6a$, $7x$, $-3a$, $8x$

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3- Using algebraic expression $3xy + 6y - 8x + ab + 9$ write:

a) The number of terms
b) Constant term
c) Coefficient of term ab
d) The variable which Coefficient *is 6*

4- Write in its simplest form the following algebraic expression:

a) $6a + 2a - 4a + 3b$
b) $6m + 2n - 12m + 10n$
c) $3x - 6y + 4(2x - 5y)$
d) $6(m - 2) - 3(5 + m)$

5- Put the following expression: $3xy + 6y - 8x + ab + 9$ in its simplest form, then find its value if $x = -1$ *and* $y = 2$

End of 1st month exercises

Choose the correct answer:

1- If $\frac{3}{4} = \frac{a}{20}$, what is the value of a?

a) 15 b) 12 c) 60 d) 5

2- If the length in the drawing is 8 cm and the real length is 32 m, then the drawing scale =.....

a) 1: 40 b) 1: 400 c) 1: 4 d) 1: 4,000

3- If the amount of 180 pounds is divided in a ratio of 2 : 1, the smaller share is….. pounds

a) 60 b) 90 c) 120 d) 30

4- The percentage of 30 out of 150 equals…

a) 10% b) 15% c) 20% d) 25%

5- If $\frac{2}{5} = \frac{a}{15}$, what is the value of a + 4?

a) 10 b) 6 c) 2 d) 8

6- The drawing scale of 1: 5,000 means that every 1 cm on the map represents….. in reality

a) 5 m b) 50 m c) 5,000 m d) 00 m

7- If $x = \{2, 4\}$, $y = \{4, 6\}$, *then* $x \cap y = \cdots$

a) 4 b) {4} c) {2} d) ∅

Second: Answer the following questions:

1- If the ratio between two numbers is 3 : 2 and the difference between them is 10, find the two numbers.

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2- Find the result of $(-5) \times (-3) + (-4)$

3- If the price of a product after 25% discount is 180 pounds, find the original price in pounds.

4- Find the number of subsets of the set $A = \{2, 3, 4\}$,

5- If we divide a piece of wire 36 cm long in a ratio of 3:2:1, Fine the length of the largest piece in cm

6- If $A = -2, B = 3$ *what is the value of* $(A + B) - (A \times B)$?

7- If $\{x, 3, 4\} = \{y, 2, 3\}$, find the value of $x + y$

8- Add: 3a + 2a

9- The amount of 270 pounds was divided between 3 people in a ratio of 2:3:4, Find the difference between the largest and smallest share .

10- If the price of a commodity decreases from 1,500 pounds to 1,200 pounds, what is the percentage of reduction?

11- If $a - \frac{1}{2} = \frac{1}{2}$, find the value of a

12- What is mathematical expression which expresses that: subtract x from 1 ?

13- Find all the subsets of the set {1,2, 3}

14- Are the algebraic terms 7x and x like terms ?

15- If the quantities: a, 3,4, b are proportional quantities, find a value of a × b

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16- Maryam reads 20 pages of the book in 45 minutes. How many hours would it take to read 80 pages if you read at the same rate?

17- If the length in the drawing is 8 cm and the real length is 320 km, what is the scale of the drawing?

18- Three people participated in a trade, the first paid 70,000 pounds, and the second paid 80,000 pounds. The third payment 90,000 pounds and profits at the end of the year were 96,000 pounds. Calculate their share of the profit at the end of the year.

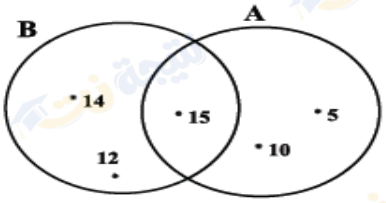
19- If the price of a dress is 810 pounds after the discount, then if the discount rate is 10% of the original price, calculate the price of the dress before the discount?

20- If $\frac{x-2}{6} = \frac{5}{15}$, find the value of $2x$.

21- If $x = \frac{-3}{7}$, $y = \frac{4}{7}$, find $2x + y$ in its simplest form.

22- From the opposite Venn diagram, find:

1) $A \cap B$ 2) $A \cup B$



23- If the number of students in a school is 650, and the ratio between the numbers of boys and girls is 6:7, calculate the excess number of girls over the number of boys?

24- Use the addition properties to find the result of each of the following:

1) $4 + 17 + (-4)$

2) $(-5) + 10 + (-7)$

3) $6 + (-8) + 3 + (-11)$

25- If the scale drawing is 1:200,000 and Length in the drawing between two points is 3.5 cm, what is the real distance between the two points in kilometers?

26- Find all subsets of the set $\{1,2,4\}$

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27- If $A = 2, B = -4, C = -3$ find the numerical value of: $(3\,B \div A) \times C$

28- Two numbers have a ratio of 5:2 if the smaller number is 48, what is the larger number?

29- A car uses 5 liters of gasoline to travel 40 km. How much gasoline does the car need to travel 128 km if it travels at the same rate?

30- Write in listing method the set A, where A is a set of even natural numbers less than 15

31- Simplify: $5(a-2b)+3(4a+b)$ in its simplest form.

32- A piece of land measuring 81 acres was divided between two people in a ratio of 2:7 what will be the share of each of them?

33- Put the ratio 45: 27 in its simplest form.

34- Find in the form $\frac{a}{b}$ the inverse addition of the number $\left|\frac{-4}{3}\right|$ and added on it multiplicative identity for rational numbers.

35- If the discount rate is 20% on any item inside a clothing store, what is the purchase price of pants that cost 500 pounds before the discount?

36- The algebraic expression: $5x+3y-5xy-7$ have 4 terms. Write:

a) Constant term b) Coefficient of term xy

c) The variable which Coefficient *is 3*

37- Using properties of addition in Q to find: $\frac{-4}{7}+\frac{-1}{2}+\frac{5}{7}+\frac{1}{2}$ in its simplest form

38- If $A = \{9,10,8\}, B = \{4,9,7\}, C = \{1,9\}$ find:

1) $A \cap B \cap C$ 2) $A \cup (B \cap C)$

39- If the price of the car tire is 3,500 pounds, what would be the selling price of the tire after adding a tax rate of 10%?

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40- Find the result of each of the following in its simplest form:

1) $5\ \frac{1}{2} \times \frac{-2}{11}$

2) $(\frac{1}{2} + \frac{5}{8}) \div \frac{3}{16}$

41- If the ratio of the lengths of the sides of a triangle with a perimeter of 135 cm is 7 : 5 : 3, find the length of the smallest side.

42- Three people participated in a project with a capital of 360,000 pounds in the ratio of 3: 2 : 1. Calculate how much each person contributed to the capital

43- A magnified image of a microscopic insect was taken. If its length in the image is 12 cm and its real length is 3 mm, find the scale of the drawing.

44- If the price of a mobile phone in one of the stores is 12,750 pounds, and its price was reduced by 8%. What would be its price after the discount?

45- Add the expressions: $3a - 2b \ and \ 2a + 5b$ then find the numerical values of the result when $a = 2 \ and \ b = 1$.

46- Identify the mistake in each of the following, and then correct it:

1) $(-10) - (-5) = 15$

2) $(-4) - 3 = -1$

3) $6 - (-8) = -2$

47- Use properties of multiplication to find the result of the following:

1) $(-4) \times 12 \times 10$

2) $(-2) \times 10 \times (5)$

3) $(-8) \times 2 \times (-125) \times 5$

48- If $\frac{x}{4} = 0.2$, find the value of x.

49- If $\frac{x-2}{6} = \frac{3}{18}$, find the value of 3x.

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50- If the scale drawing of the map is 1: 1,000,000 and the real distance between two cities is 45 km, what is the distance between the two cities on the map in centimeters?

51- A man distributed 18,000 pounds to two people in a ratio of 2: 3, how much will each of them receive?

1- If $A = \{2,4,6\}, B = \{4,6,8\}$ find: $A \cap B$ *and* $A \cup B$

52- Find the result of the following:

a. $(-7) \times 3$

b. $(-8) \times (-3)$

c. $5 \times |-6|$

d. $36 \div (-6)$

e. $(-18) \div (-2)$

f. $(-16) \div 4$

53- The ratio of two numbers is 3:4. If the smaller number is 15, what is the larger number?

54- Find the value of expression: $4x + 3x - 5x$ *when* $x = 2$.

55- If $x = \frac{-1}{7}$, $y = \frac{3}{4}$, find the value of: $7x + 4y$ in its simplest form.

56- Sandy received a 15% discount on the price of a sports shoe from one of the stores, so she paid an amount of 340 pounds. Find the original price of the shoe.

57- Two integers whose product equals 44 and their sum equals zero, what are the two numbers?

58- If $\{5,3,x\} = \{2,5,y\}$, what is the value of $2x + y$?

59- Simplify: $2a + 3b - 3a + 4b$ in its simplest form.

60- If $\{1,3,x5\}C\{x,3,y,9\}$, find the value of $x + y$?

61- Ahmad drew a picture of his brother Abdul Rahman with a drawing scale of 1 :40. If Abdul Rahman's height is 160 cm, what is his height in the picture?

62- If $x = 3$, $y = 6$, $z = -3$, find the value of: $(4x + y) \div z$ in its simplest form.

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Unit (2) | Week (.....) | Lesson (1) Linear Equations | Date: / /

Classroom performance:

Activity 1 (Sportsmanship):

The team played a number of matches in the league, winning x matches and drawing 7 matches. Express the number of points the team accumulated in these matches in a mathematical formula? Do this by yourself. (Note that a win in a match earns three points and a draw earns one point.)



Activity 2 (The new school year):

Ahmed bought x quantities of something costing 6 pounds each, and 7 quantities of something costing 10 pounds each, and he paid a total of 100 pounds? Collaborate with Shoulder partners to determine which of the following options represents this purchase.



$6X + 70 = 100$	$6X + 7 = 100$	$6X + 10 = 100$	$6x + 100 = 7$

Home Performance (H.W):

Answer the following:

1. Express each of the following by suitable equation:
   a. When adding a number to the next number, the result is equal to 11.
   b. two even numbers sum to 26
2. If the substitute set is $\{1,2,3\}$ find the solution set of the following equations:
   $a.\ 3x + 1 = 7$ $b.\ 14 - 4x = 2$
3. Find the solution set of equation $2x + 11 = 7$ if Substitution Set is:
   $a.\ Z$ $b.\ N$
4. Find in Q the solution set of the equation: $\frac{1}{2}x + 6 = 8$
5. An integer is such that if its double is added to 4, the result is 24. What is this number?

Performances and Assessments

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Weekly Assessment – Week .....

Group (A)

First- Choose the correct answer:

1- The solution set of the equation: $3(x-2)=0$ in Q is:

a){ 2} b) {−2} c) { 0} d)Ø

Second- Answer the following:

1- Is the equation n + 1 = 6 equivalent to the equation 2n + 1 = 3 ? why?

2- Express the following situation with a suitable equation: The sum of two consecutive integers is 59.

3- Find in Z the solution set of the equation: $2x+7=3$

4- If $\frac{m}{2}=7$ find the value of: $m-15$

Group (B)

First- Choose the correct answer:

1- The solution set of the equation: $2(x-5)=0$ in Q is:

a){ 5} b) {−5} c) { 0} d){ 10}

Second- Answer the following:

1- Is the equation a = 3 equivalent to the equation 2a - 4 = 8 ? why?

2- Express the following situation with a suitable equation: The sum of two consecutive odd integers is 32.

3- Find in Z the solution set of the equation: $2x-5=-17$

4- If $3k=21$ find the value of: $2k+1$

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Group (C)

First- Choose the correct answer:

1- The solution set of the equation: $2(x-4)=0$ in Q is:

a)$\{4\}$ b) $\{-4\}$ c) $\{0\}$ d) $\{8\}$

Second- Answer the following:

1- Find in Z the S.S. of the equation $6x = 18$

2- Express the following situation with a suitable equation: The sum of two consecutive even integers is 46.

3- Find in Z the solution set of the equation: $3x + 5 = 17$

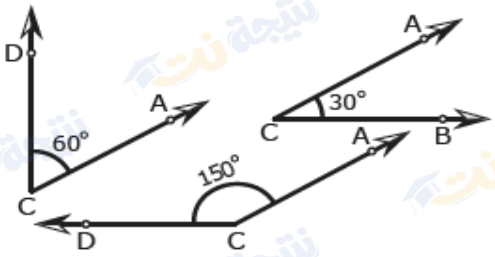
4- If: $5n = 20$ find the value of: $8 - 2n$

Unit (4) | Week (.....) | Lesson (1) Types of Angles and Relations between Angles | Date: / /

Classroom performance:

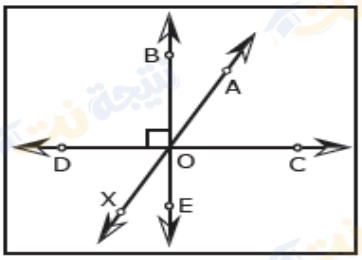
Activity 1 (Your angle is in your hands): (Cut and paste)

Students are given sheets containing pieces of geometric shapes, cut out and scattered angles, and they are asked to cut and assemble them to form pairs of right angles (according to the relationship: complementary, supplementary, and vertical). They then write the name of the relationship next to each pair.



Activity 2 (Secrets of the angles):

Collaborate with your Shoulder partners, using the protractor to measure the angles shown in the figure, using it to complete the following table:



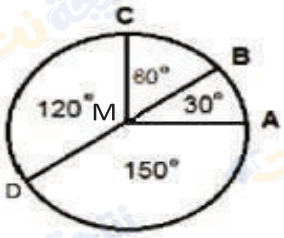
Performances and Assessments

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N0	The two angles	The relationship
1	$m(\angle COA) = \cdots°$, $m(\angle AOB) = \cdots°$	
2	$m(\angle AOD) = \cdots°$, $m(\angle COA) = \cdots°$	
3	$m(\angle DOX) = \cdots°$, $m(\angle COA) = \cdots°$	
4	$m(\angle BOA) = \cdots°$, $m(\angle XOE) = \cdots°$	

Activity 3 (Angles and types):

The teacher gives each student a paper circle divided into parts by lines.

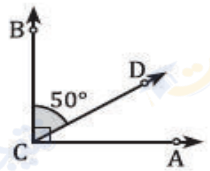
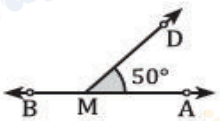
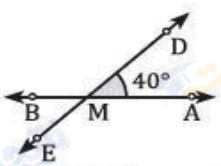
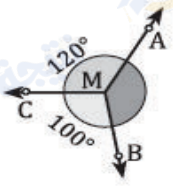
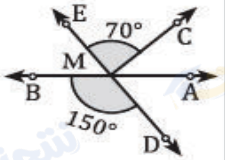


The opposite circle is divided into many angles, notice and complete the next table with your partner:

Angles	Measure	Type
∠ AMB	.....	.....
∠ AMC	.....	.....
∠ AMD	.....	.....
∠ BMD	.....	.....
∠ CMD	240°	.....

Home Performance (H.W):

In the following shapes, complete by finding measure of the angles:

(1)	(2)	(3)	(4)	(5)
$\overrightarrow{CA} \perp \overrightarrow{CB}$	$\overrightarrow{AB} \cap \overrightarrow{MD} = \{M\}$	$\overrightarrow{AB} \cap \overrightarrow{DE} = \{M\}$		$\overrightarrow{AB} \cap \overrightarrow{DE} = \{M\}$
				
$m(\angle ACD) = \cdots°$	$m(\angle DMB) = \cdots°$	$m(\angle BME) = \cdots°$	$m(\angle AMB) = \cdots°$	$m(\angle AMC) = \cdots°$

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Weekly Assessment – Week .....

Group (A)

First- Choose the correct answer:

1- The solution set of the equation: in Q is:

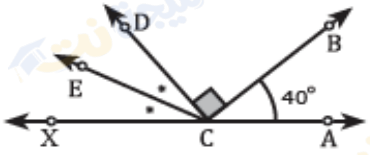
a)60 b) 150 c) 330 d)120

Second- Answer the following:

1- Find the measure of the angle that complements an angle of measure 50 degrees.

2- In the opposite figure $\overrightarrow{CE}$ bisect $\angle DCX$

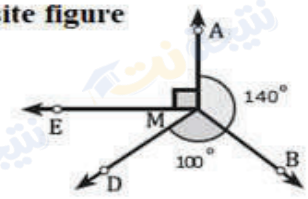
Find $m(\angle ECA)$



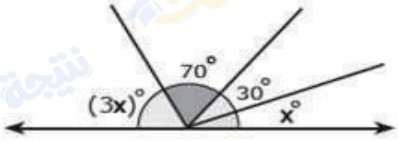
(2) In the opposite figure

$\overrightarrow{MA} \perp \overrightarrow{ME}$

Find $m(\angle EMD)$



(3) In the opposite figure find the value of x



Group (B)

First- Choose the correct answer:

1- An angle measuring 20° has a complementary angle that measures .....°

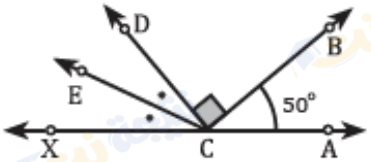
a)70 b) 120 c) 160 d)280

Second- Answer the following:

1- Find the measure of the angle that supplements an angle of measure 30 degrees.

2- In the opposite figure $\overrightarrow{CE}$ bisects $\angle DCX$

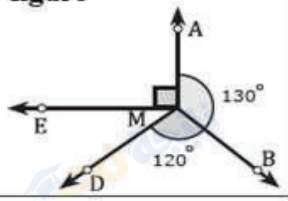
Find $m(\angle ECA)$



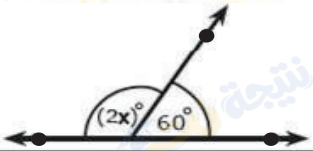
(2) In the opposite figure

$\overrightarrow{MA} \perp \overrightarrow{ME}$

Find $m(\angle EMD)$



(3) In the opposite figure find the value of x



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Group (C)

First- Choose the correct answer:

1- An angle measuring 10° has a complementary angle that measures .....°

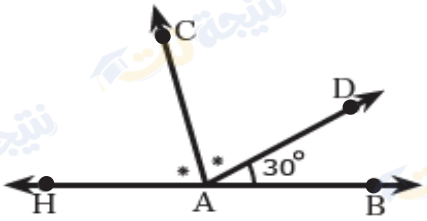
a)60 b) 150 c) 330 d)170

Second- Answer the following:

1- Find the measure of the angle that supplements an angle of measure 35 degrees.

2- In the opposite figure $\overrightarrow{AC}$ bisect $\angle DAH$

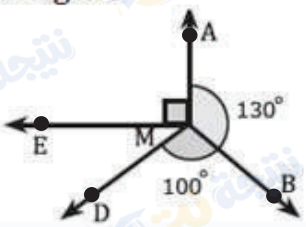
Find $m(\angle CAB)$



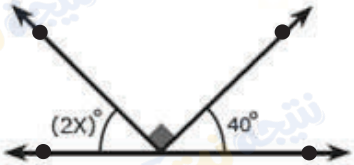
(2) In the opposite figure

$\overrightarrow{MA} \perp \overrightarrow{ME}$

Find $m(\angle EMD)$



(3) In the opposite figure find the value of x



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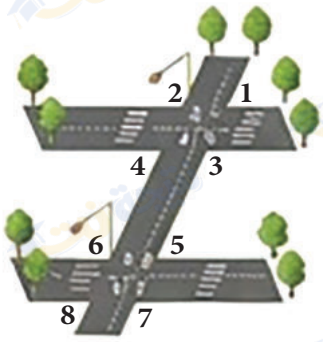
Unit (4) | Week (.....) | Lesson (2) Parallelism | Date: / /

Classroom performance:

Activity (1) (A trip to the city of angles)

Collaborate with your fellow engineers and use a protractor to measure the angles shown in the figure.

Use it to complete the following table:

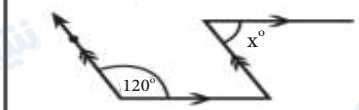


	Two Angles	Relationship
1	$m(\angle 4) = \cdots^\circ , m(\angle 5) = \cdots^\circ$	
2	$m\angle(3) = \cdots^\circ , m\angle(7) = \cdots^\circ$	
3	$m(\angle 2) = \cdots^\circ , m(\angle 6) = \cdots^\circ$	
4	$m(\angle 4) = \cdots^\circ , m(\angle 8) = \cdots^\circ$	
5	$m(\angle 3) = \cdots^\circ , m(\angle 6) = \cdots^\circ$	
6	$m(\angle 3) + m(\angle 5) = \cdots^\circ$	
7	$m(\angle 4) + m(\angle 6) = \cdots^\circ$	

Home Performance (H.W):

Find X in each of the following figures:

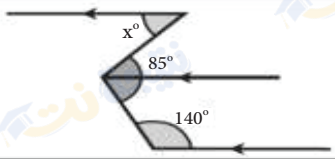
(1)



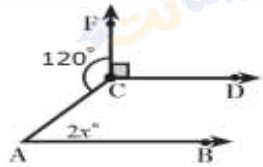
(2)



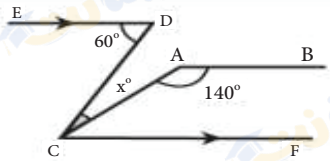
(3)



(4)



(5)



Performances and Assessments

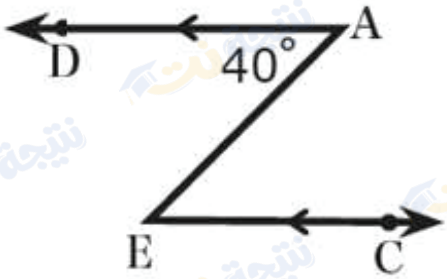
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Weekly Assessment – Week .....

Group (A)

First: Choose the correct answer:

1) In the opposite figure:

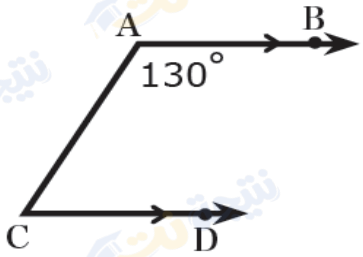


m (∠ AEC) = ... °

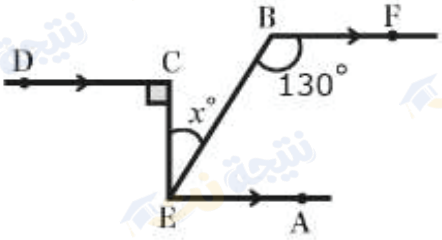
(a) 40 (b) 50 (c) 60 (d) 70

Second: Answer the following:

1) In the opposite figure: find m (∠ ACD)



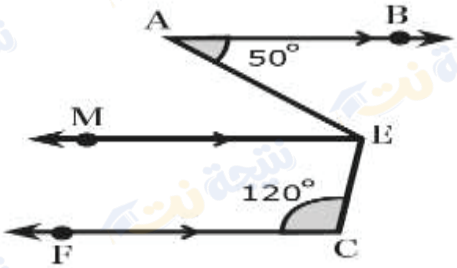
2) Find x in the opposite figure:



3) In the opposite figure:

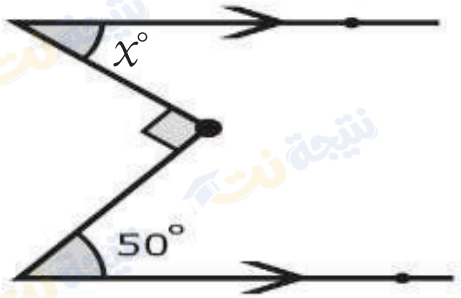
$\overrightarrow{AB} // \overrightarrow{EM} // \overrightarrow{CF}$

Find: m (∠ AEC)



4) In the opposite figure:

Find: x



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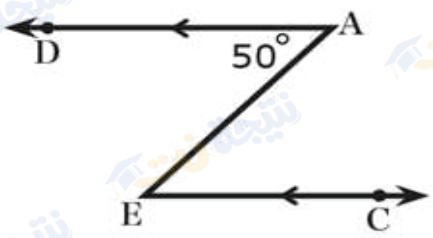
Group (B)

First: Choose the correct answer:

1) In the opposite figure:

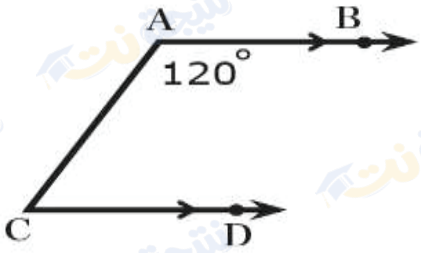
m (∠ AEC) = ... °

(a) 40 (b) 50 (c) 60 (d) 70

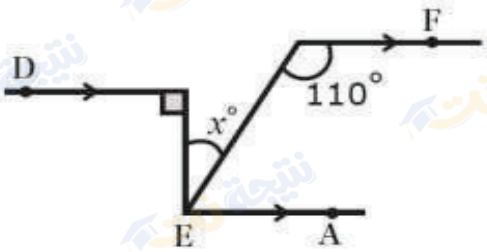


Second: Answer the following:

1) In the opposite figure: find m (∠ ACD)



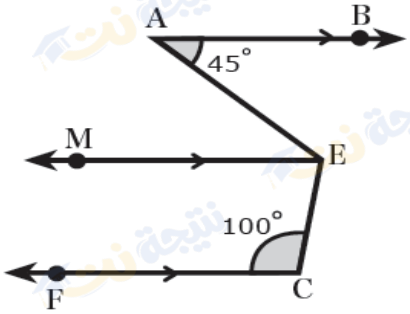
2) Find X in the opposite figure:



3) In the opposite figure:

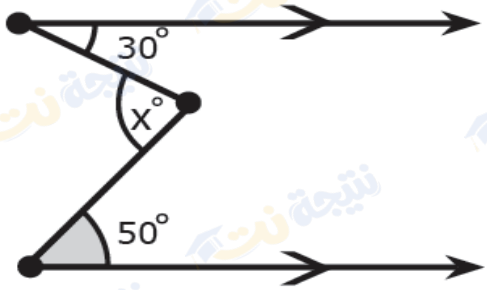
$\overrightarrow{AB} // \overrightarrow{EM} // \overrightarrow{CF}$

Find: m (∠ AEC)



4) In the opposite figure:

Find: X

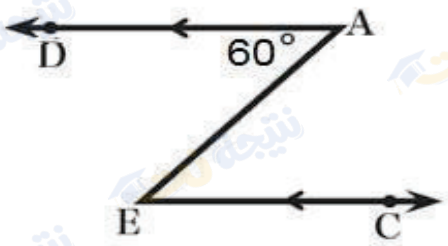


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Group (C)

First: Choose the correct answer:

1) In the opposite figure:

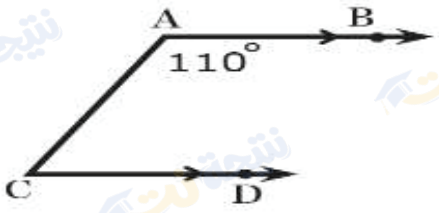


m (∠ AEC) = ... °

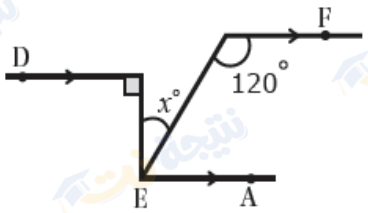
(a) 40 (b) 50 (c) 60 (d) 70

Second: Answer the following:

1) In the opposite figure: find m (∠ ACD)



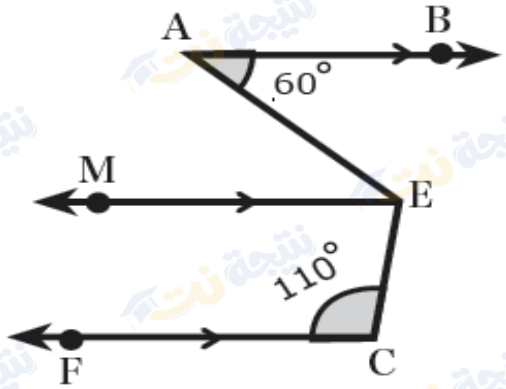
2) Find X in the opposite figure:



3) In the opposite figure:

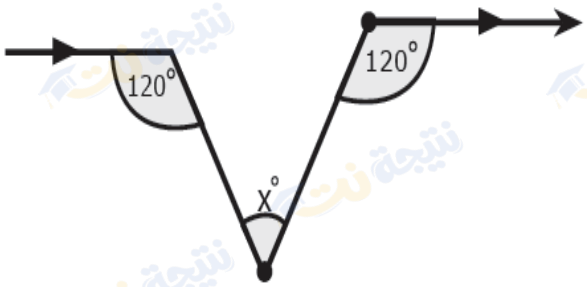
$\overrightarrow{AB} // \overrightarrow{EM} // \overrightarrow{CF}$

Find: m (∠ AEC)



4) In the opposite figure:

Find: X



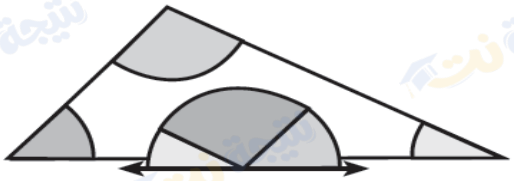
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Unit (4) | Week (.....) | Lesson (3) Triangle | Date: / /

Classroom performance:

Activity (1) (Secrets of Triangle)

Draw a triangle of any shape (right, equilateral, or scalene) on the cardboard.



Carefully, cut the triangle and label the angles.

Cut off the three angles and keep them.

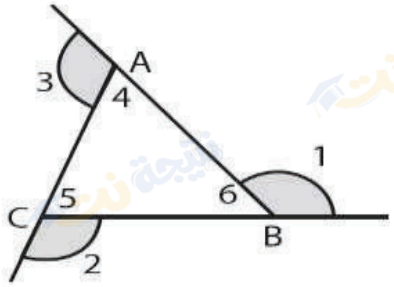
Arrange the three angles next to each other so that their vertices meet in a straight line. What do you notice?

Activity (2) (External angle solves the puzzle!)

In collaboration with a partner, use a protractor to measure angles 1 through 6.

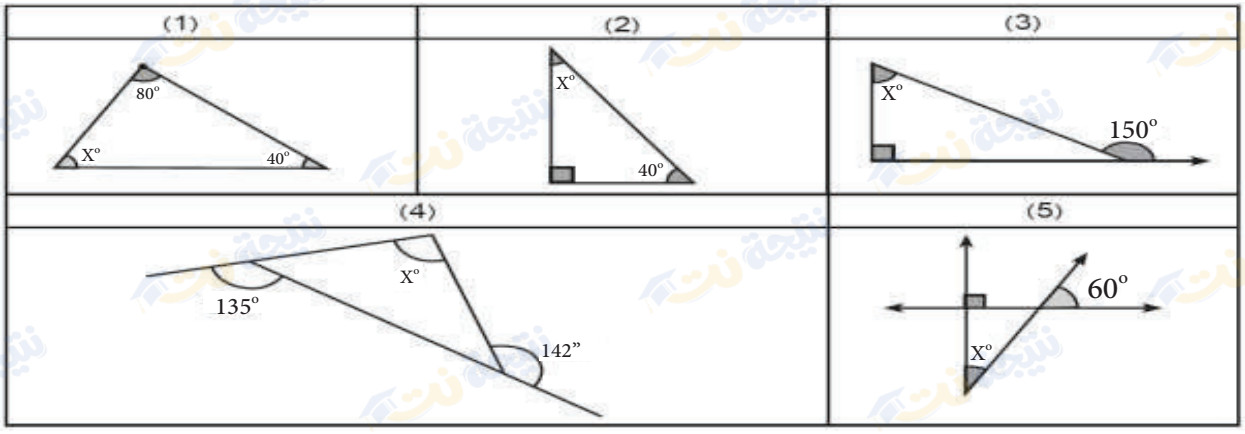
Discover the relationship between each of the three pairs of angles:

1, 4, 5 and 3, 5, 6 and 2, 4, 6



Home Performance (H.W):

Find X in each of the following figures:



Performances and Assessments

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Weekly Assessment – Week .....

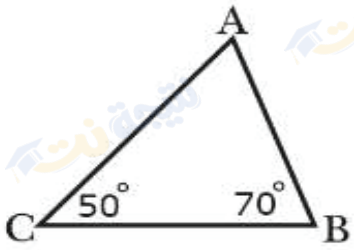
Group (A)

First: Choose the correct answer:

1) In the opposite figure:

m (∠ A) = ... °

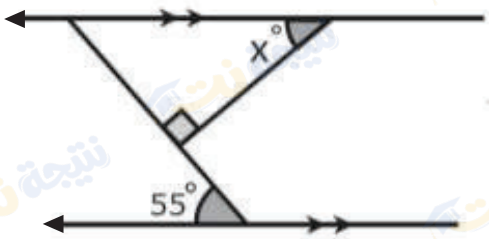
(a) 40 (b) 50 (c) 60 (d) 70



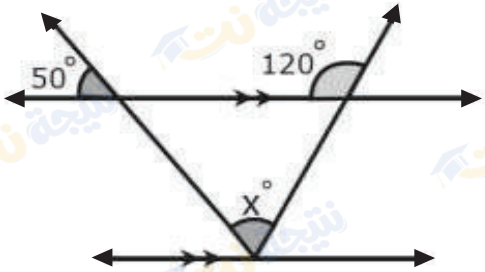
Second: Answer the following:

1) In the opposite figure:

Find the value of X

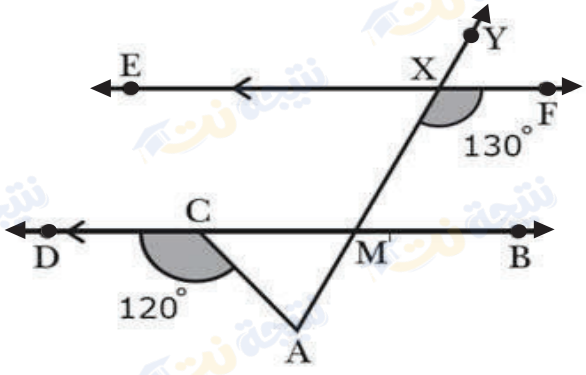


2) Find X in the opposite figure:



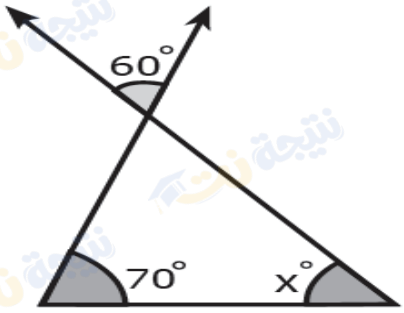
3) In the following figure:

Find: m (∠ A)



4) In the following figure:

Find: X



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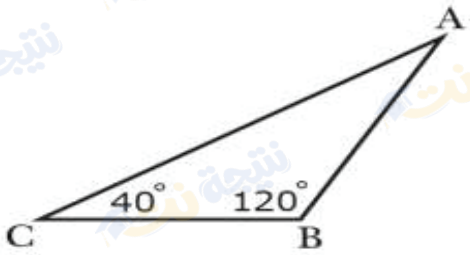
Group (B)

First: Choose the correct answer:

1) In the opposite figure:

m (∠ A) = ... °

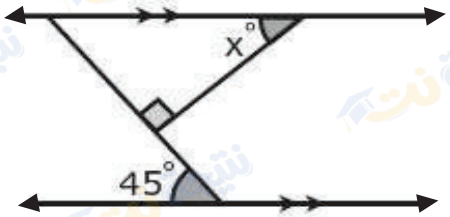
(a) 40 (b) 30 (c) 60 (d) 20



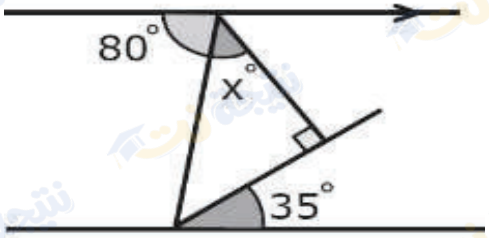
Second: Answer the following:

1) In the opposite figure:

Find the value of X

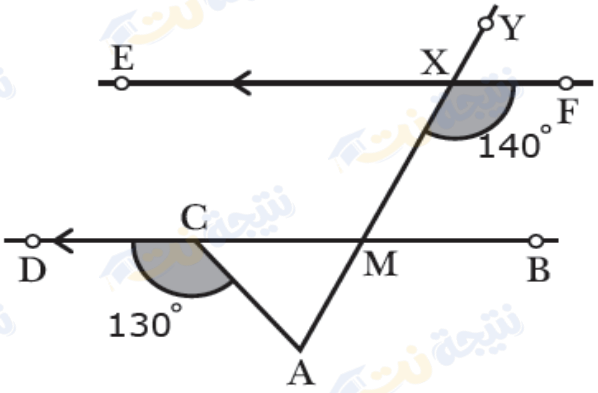


2) Find X in the opposite figure:



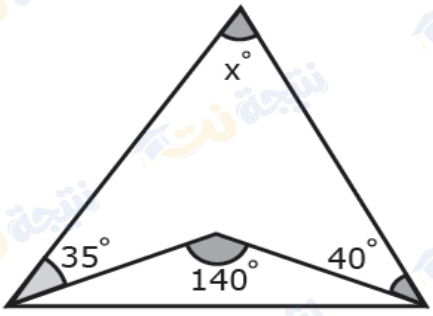
3) In the following figure:

Find: m (∠ A)



4) In the following figure:

Find: X

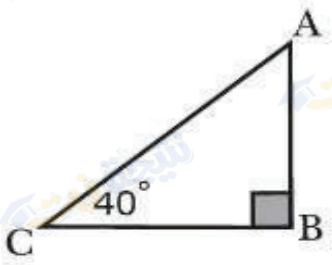


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Group (C)

First: Choose the correct answer:

1) In the opposite figure:



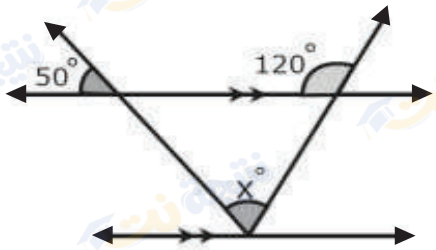
m (∠ A) = ... °

(a) 40 (b) 50 (c) 60 (d) 70

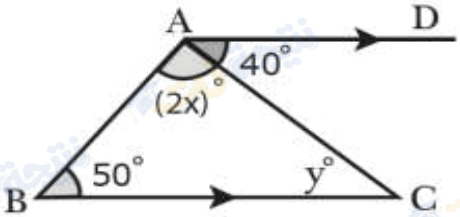
Second: Answer the following:

1) In the opposite figure:

Find the value of X

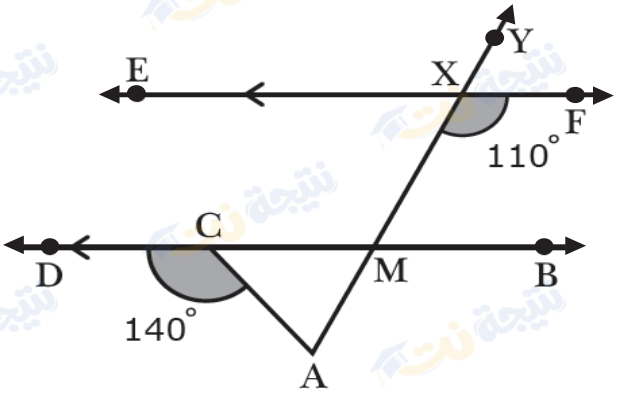


2) Find X and Y in the opposite figure:



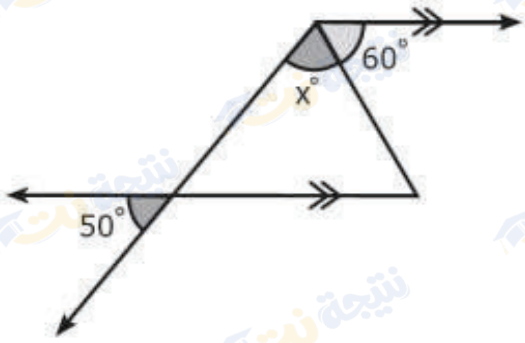
3) In the Following figure:

Find: m (∠ A)



4) In the Following figure:

Find: X



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Unit (4) | Week (.....) | Lesson (4) Quadrilaterals | Date: / /

Classroom performance:

Activity (1) (Tourism)

Manal and her family went on a trip to the Abu Simbel Temple. She took a photo of the temple's facade and marked it with the shape ABCD.



Find the sum of the measures of the interior angles of the shape using a protractor or other method.

Activity (2) (Gardens)

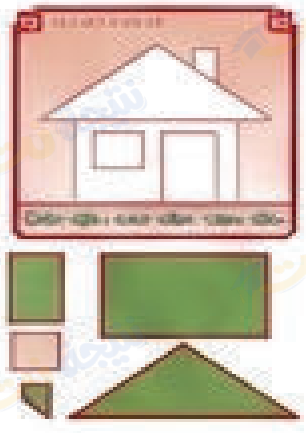
Work with your partner to draw models of your school's flower pools in the form of a (trapezium, parallelogram, rectangle, rhombus, or square).



Activity (3) (cut and paste)

Using geometric tools and cutting and pasting, you and your group cooperate to create the special quadrilateral shapes (trapezium, parallelogram, rectangle, rhombus and square).

Then, using a ruler and a protractor, deduce with your group the properties of shapes in terms of: (sum of the measures of the interior angles, relationships between the lengths of the sides, parallelism of the sides, relationships between the measures of the angles).



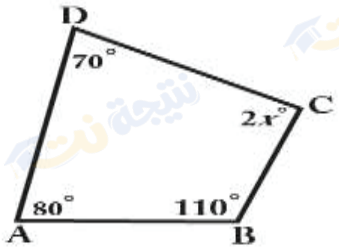
Performances and Assessments

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Home Performance (H.W):

Answer the following questions:

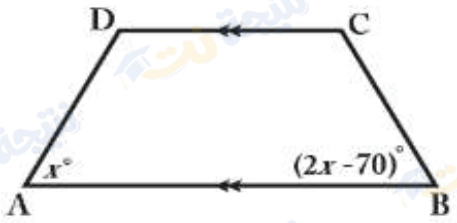
1) Reflect the opposite figure and then find X :



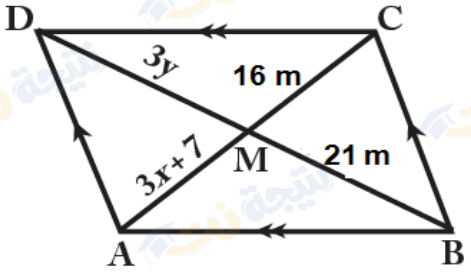
2) Reflect the opposite figure:

m (∠ A) = m (∠ B)

Find: m (∠ C)

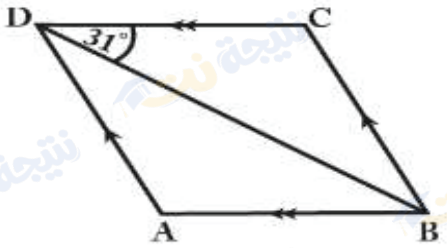


3) In the opposite figure: Find with proof the value of X and Y:



4) In the opposite figure: ABCD is a rhombus.

Find with proof: m (∠ C)



5) If: ABCD is a parallelogram,

AC = BD

Find with proof: m (∠ B)

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End of second month exercises

First: Choose the correct answer:

1) The value of X in the equation (4x + 2) = (3x – 1) is.....

(a) -3 (b) 7 (c) 3 (d) -7

2) A parallelogram whose diagonals are perpendicular is called.....

(a) Square (b) Rhombus (c) Rectangle (d) Trapezium

3) The type of angle whose measure is 330 .....

(a) Acute (b) Right (c) Reflex (d) Obtuse

4) The solution set of the equation: 3 = x + 5 in N is.....

(a) { 2 } (b) { -2 } (c) { 0 } (d) T

5) If the sum of the measures of two angles in a triangle is 130º, what is the measure of the third angle?

(a) 20º (b) 30º (c) 50º (d) 60º

Second: Answer the following questions:

1) If: ABCD is a parallelogram, AC = BD , AC ⊥ BD then what is the name of the shape ABCD ?

2) The angle whose measure is 70° , What the measure of its vertically opposite?

3) What is the sum of measures of the interior angles of a quadrilateral ?

4) If the two vertical angles are complementary, Then what is the measure of each ?

5) If a straight line intersects two parallel straight lines, then what is the relation between each two interior angles on the same side of the transversal ?

6) If: ABCD is a square, Then what is m (∠ ABD) ?

7) Karma's age now is X years and her age 6 years ago was 15 years.
What is the equation represents the previous situation?

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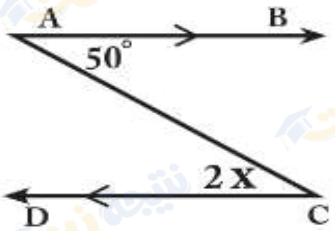
8) Write the name of all the quadrilaterals whose sides are all equal in length?

9) What is the relation between the sum of the lengths of any two sides of a triangle and the length of the third side.

10) In the opposite figure:

$m(\angle A) = 50°$, $\overrightarrow{AB} // \overrightarrow{DC}$

Then, X = ... °



11) Find the solution set of the equation: $5x + 14 = 10$ if the substitution set is:

(a) Z (b) N

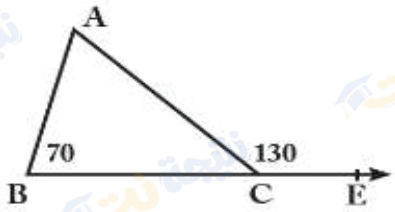
12) Find in Q the solution set of the equation: $2x + 5 = 12 + 3x$

13) In the opposite figure:

ABC is a triangle, m (∠ B) = 70° ,

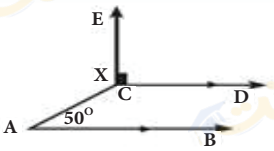
m (∠ ACE) = 130°

Find m (∠ A)

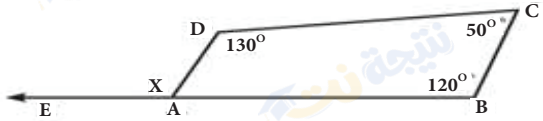


14) In each of the following figures, find X:

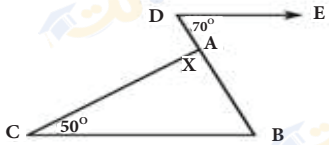
(A)



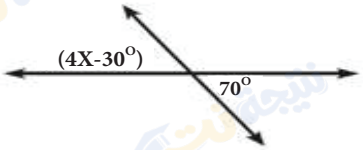
(B)



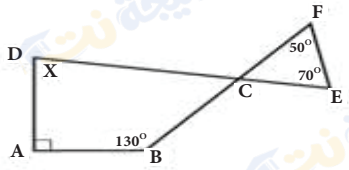
(C)



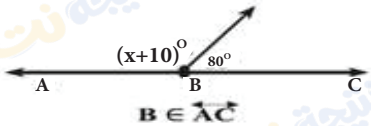
(D)



(E)



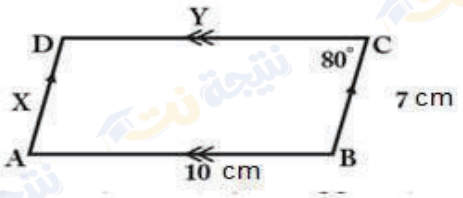
(F)



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15) In the opposite figure ABCD is a parallelogram

Find: X + Y , m (∠ B)

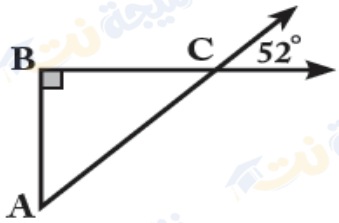


16) If the lengths of two sides of a triangle are 3 cm and 5 cm, what is the largest integer that can represent the length of the third side?

17) A father's age is now three times the age of his son. The father's age was 28 years older than his son. How old are each of them now?

18) In the opposite figure:

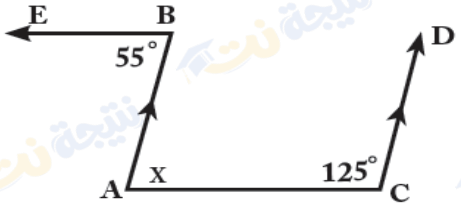
Find: m (∠ A)



19) In the opposite figure:

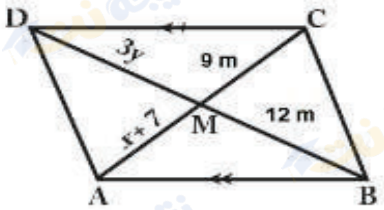
Find: X and prove that:

$\overline{AC} // \overrightarrow{BE}$



20) In the opposite figure:

Find with proof the value of: x , y



21) A triangle has two angles measuring: 36°, 24°. What type of triangle is it according to its angles?

22) If: 2x + 5 = 13 , What is the value of: x- 3 ?

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23) Two vertically opposite angles, one of them measures $(2x^\circ)$ and the other measures $(x + 21^\circ)$ Find the measure of one of them.

24) If ABCD is a parallelogram, $m(\angle B) = 3x + 10$, $m(\angle D) = 2X + 50$, Find $m(\angle C)$

25) Find in Z the solution set of the following equation:

$5x + 2 = 3x + 8$

26) Find in Q the solution set of the following equation:

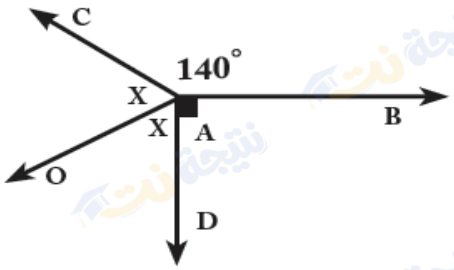
$2(x + 3) = 3(1 - x)$

27) Express the following situation with a suitable equation:

Double a number added to 6 is equal to 20.

28) In the opposite figure:

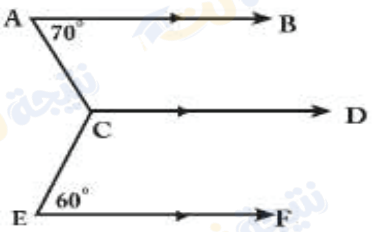
Find: X



29) In the opposite figure:

Find: X with proof:

m (∠ A CE)

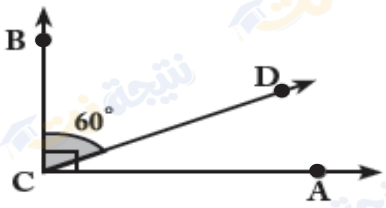


30) In the opposite figure:



Find the value of : x

31) In the opposite figure:

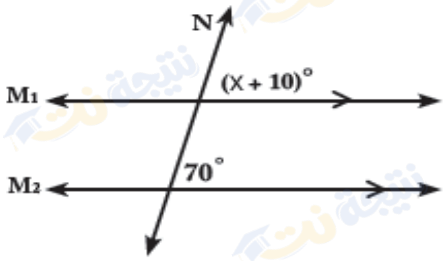


Find: m(∠ACD)

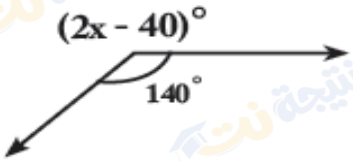
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32) In the opposite figure:

The two lines M1and M2 are parallel , The line N is a transversal, Find the value of x.



33) In the opposite figure:



Find the value of : x

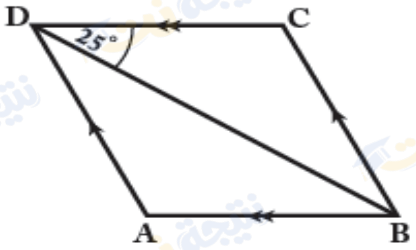
34) Which of the following sets of numbers cannot be used as side lengths of a triangle? And why?

a) 4 cm, 7 cm, 3 cm b) 4 cm, 3 cm, 5 cm c) 5 cm, 5 cm, 5 cm

35) If the sum of the measures of two angles in a triangle is 145° what is the measure of the third angle?

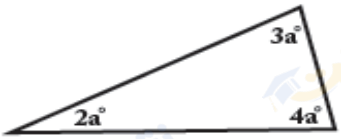
36) In the opposite figure: ABCD is a rhombus.

Find with proof: m (∠A).



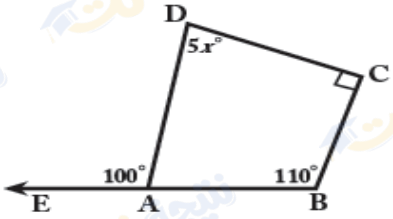
37) In the opposite figure:

Find the value of a



38) In the opposite figure:

Find the value of x

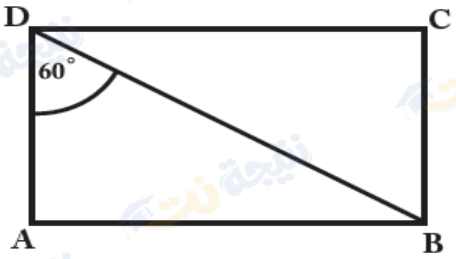


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39) In the opposite figure: ABCD is a rectangle.

m (∠ADB)= 60°

Find with proof: m (∠ABD).



40) A triangle has side lengths x cm, x cm, and 10 cm. Find the value of x if the perimeter of triangle is 36 cm.

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Unit (4) | Week (.....) | Lesson (5) Polygons | Date: / /

Classroom performance:

Activity 1 (Geometric Decoration)

Manal's mother asked her to search online for a geometric drawing to design the facade of their house. Help Manal identify convex and concave polygons. Divide each polygon into triangles and then deduce the sum of the interior angle measures of each polygon.



Activity 2 (Geometric Drawing)

In a competition for geometric decoration using geometric tools or any other method, take turns with your colleague to draw regular polygons (quadrilateral, pentagon, hexagon, heptagon).





Activity 3 (Mosaic)

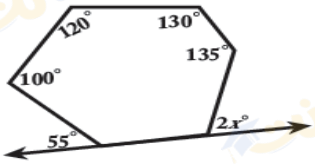
The history of mosaics dates back thousands of years and they are small pieces arranged in a geometric and artistic way. Work with your group to extract different polygons and draw their axes of symmetry



Home Performance (H.W):

Answer the following questions:

1) ABCD is a quadrilateral where m (∠A) = m (∠B) =50° and m (∠C) =70° Find: m (∠D), and state the type of figure (convex or concave).
2) ABCDEF is a regular hexagon. Find: m (∠E) (exterior).
3) A regular polygon has an interior angle measure of 144°. Find: the number of its sides.
4) Look at the opposite figure and then find the value of x.



5) Find the number of axes of symmetry for each of the following shapes: parallelogram, isosceles triangle, square, regular hexagon, rectangle, rhombus

Performances and Assessments

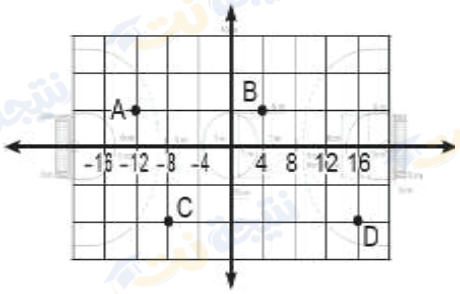
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Unit (4) | Week (.....) | Lesson (6) Coordinates | Date: / /

Classroom performance:

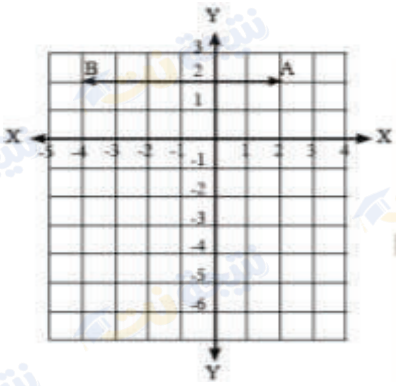
Activity 1 (Handball)

In front of you is a handball court. Help the team coach determine the coordinates of the players marked with the letters A, B, C, D. And determine the quadrant in which each player is located.



Activity 2 (The mid-point of a road)

Ahmed goes to his school at 7 am. If the point A represents the school in the opposite coordinate and the point B represent his home, determine:



1) The projection of The point A on X axes.

2) The projection of The point B on Y axes.

3) The point C at the mid – point between A and B.

Home Performance (H.W):

Answer the following questions:

1) Represent the points: A (2,-2), B(3,2), C(−2,5), and D(-3,1) in the coordinate plane. State the type of quadrilateral.
2) If the point A (2k, 3k−12) lies on the y-axis, find the quadrant in which the point B(k−3,3−k) lies.
3) Draw the line segment $\overline{AB}$ in the coordinate plane, where A(3,2) and B (-3, 1). On the drawing, determine the projection of $\overline{AB}$ on the x-axis and the projection of $\overline{AB}$ on the y-axis.
4) Find the coordinates of the midpoint of $\overline{AB}$, where A(1,4) and B(5,−2).
5) If ABCD is a rectangle, where A(2,−2), B(2,5), and C(−3,5). Find the coordinates of each of the following: the intersection point of the diagonals, and the vertex D.

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Weekly Assessment – Week .....

Group (A)

First- Choose the correct answer:

1) ABCDE is a pentagon where m (∠A) =m (∠B) = m (∠C) =70° and m (∠D) =140° then The figure is .....

a) regular b) concave c) convex d) not a polygon.

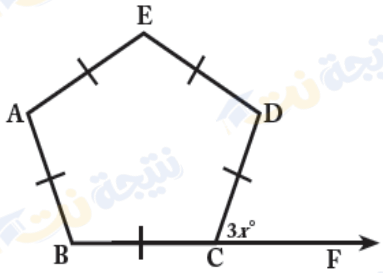
Second - Answer the following:

1) What is the projection of the point (4,3) on the y-axis ?

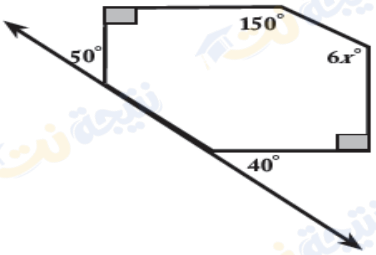
2) If ABCD is a rhombus where A(3,5), B(12,-3), C(9,13). Find the coordinates of each of the following:

1) the intersection point of the diagonals 2) vertex D.

3) In the opposite figure, ABCDE is a regular pentagon. Find the value of x



4) Look at the opposite figure: Then find the value of x.



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Group (B)

First- Choose the correct answer:

1) ABCDE is a pentagon where m (∠A) =m (∠B) = m (∠C) =60° and m (∠D) =150° then The figure is ……

a) regular b) concave c) convex d) not a polygon.

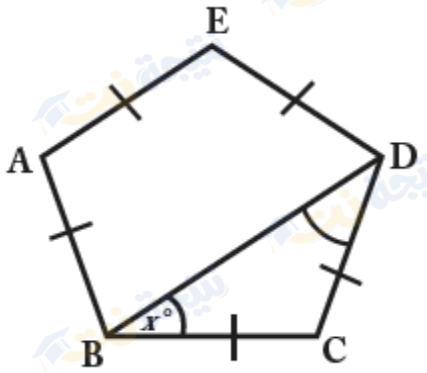
Second - Answer the following:

1) What is the projection of the point (5,3) on the y-axis ?

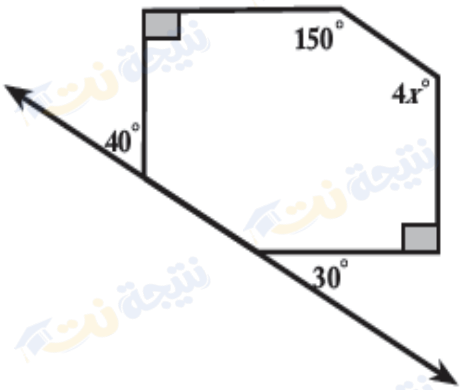
2) If ABCD is a parallelogram where A(-1,1), B(2, 4), D(4,1). Find the coordinates of each of the following:

1) the intersection point of the diagonals 2) vertex C.

3) In the opposite figure, ABCDE is a regular pentagon. Find the value of x



4) Look at the opposite figure: Then find the value of x.



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Group (C)

First- Choose the correct answer:

1) ABCDE is a pentagon where m (∠A) =m (∠B) = m (∠C) =80° and m (∠D) =60° then The figure is ……

a) regular b) concave c) convex d) not a polygon.

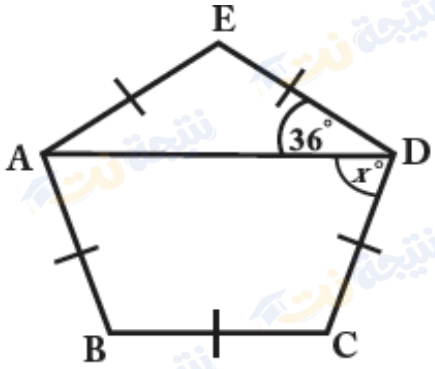
Second - Answer the following:

1) What is the projection of the point (4,3) on the y-axis ?

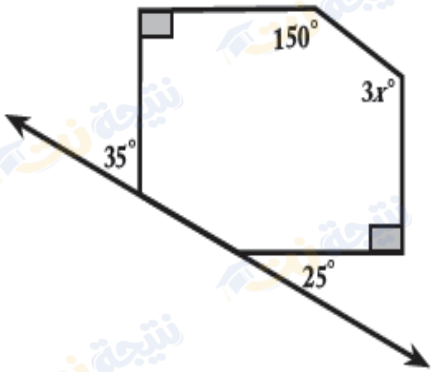
2) If ABCD is a parallelogram where A(2,2), B(7, 2), C(9,5). Find the coordinates of each of the following:

1) the intersection point of the diagonals 2) vertex D.

3) In the opposite figure, ABCDE is a regular pentagon. Find the value of x



4) Look at the opposite figure: Then find the value of x.



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Unit (3) | Week (.....) | Lesson (1) Organizing Data | Date: / /

Classroom performance:

Activity 1 (Break Time)



During break time, you asked your colleagues: "What do you prefer to do during break time?"

Their answers were as follows: 18 students prefer eating, 20 students prefer playing basketball, 4 students prefer talking with friends, 6 students prefer sitting in the library to read. Represent this data using bar graph, using expressive colors and drawings for each activity, such as for food, for basketball, for talking, for reading.

Activity 2 (Know Your Length)



Borrow a list of the names of the students in the class from your teacher.

Using a measuring tape, measure the heights of your classmates and record the data.

Collaborate with your group members to organize this data in a grouped frequency table. Represent the data you obtained using a histogram on graph paper.

Use colors and drawings to decorate the histogram and make it more attractive.

Activity 3 (Do you have money?)



Ask each student in your class to state a amount of money (between 10 and 50 pounds). Record all amounts on a sheet of paper, then arrange them in ascending order.

Use the data to create a stem-and-leaf plot, then draw the plot on a large paper or a drawing notebook. Decorate the plot with colors, and symbolic drawings such as coins can be used to distinguish some numbers.

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Home Performance (H.W):

Answer the following questions:

1) Determine the type of each of the following questions, whether it is a statistical question or a non-statistical question:

(1) What is the number of months in a year?

(2) How many hours do the students of the first preparatory grade in your school spend studying mathematics?

2) The following data are the scores of (48) students in a November assessment for mathematics:

Intervals	10 -	20 -	30 -	40 -	50 -
Frequency	9	10	15	8	6

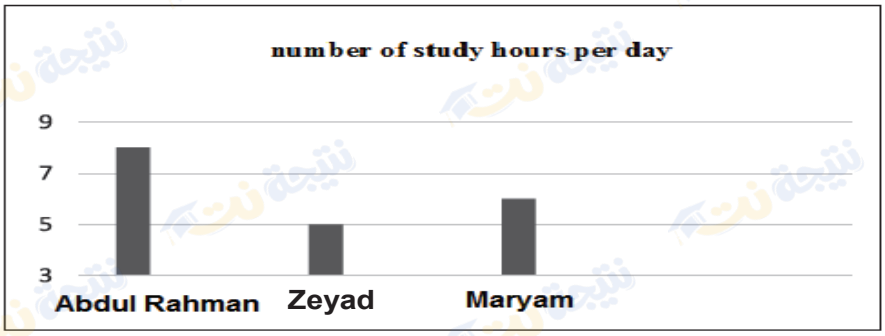
Represent this data with a histogram and then find the number of students who scored 30 degrees or more?

3) The following data represents the number of mobile phones sold by a store over (30) days:

27	13	32	12	33	37	44	8	26	32
36	9	15	28	48	46	16	38	45	41
25	18	7	28	34	18	14	33	32	13

Represent this data with a stem-and-leaf plot, then find the median.

4) Is the following bar graph misleading or not? And why?



5) In the following stem-and-leaf plot, which shows the average battery life for

Stems	Leaves								
0	8								
1	0	1	1	2	3	4	4	4	6
2	0	1	5	6	7	8	9		
3	0	1	1						

(20) mobile phones, find the median, mode, first quartile, and third quartile

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Weekly Assessment – Week .....

Group (A)

First- Choose the correct answer:

1) The easiest way to find the first quartile and the third quartile is to use.....

a) box plot b) histogram c) dot plot d) bar graph.

Second - Answer the following:

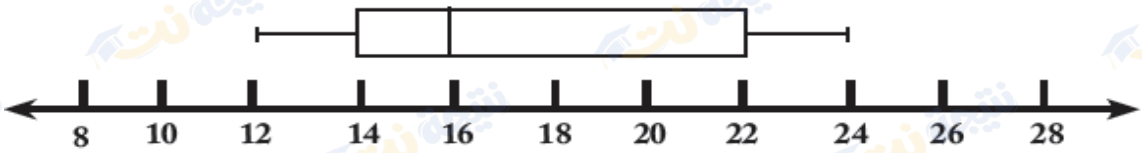
1) Find the third quartile for the values 17, 12, 15, 11, 14, 10, 16 ?

2) The following data represents the scores of (20) students in a test:

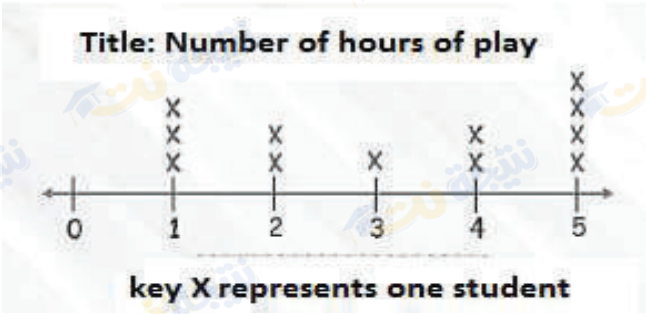
30 ، 27، 40،28، 16 ،26 ،13 ،25 ،13 ، 38 ، 40 ، 24 ، 12 ،11 ،13 ،20 ،37 ،37 ، 21 ،11

Represent these scores with a stem-and-leaf plot, then find both the median and the mode

3) From the opposite box plot, what is the value of the first quartile?



4) From the graph opposite:



what is the total number of participants students ?

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Group (B)

First- Choose the correct answer:

1) Which of the following charts does not display the actual data?

a) bar graph b) histogram c) Stem-and-leaf plot d) dot plot

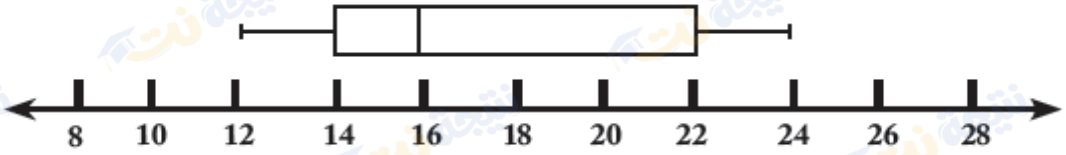
Second - Answer the following:

1) Find the the mode for the values 17, 16, 15, 11, 16, 10, 16

2) The following data represents the scores of (20) students in a test:

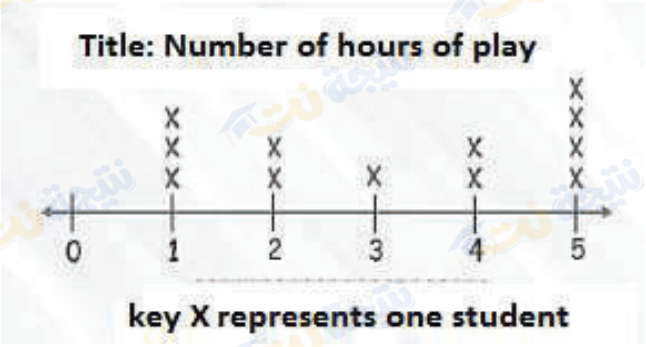
29 ،27، 15،28، 15 ،27، 13 ،27 ،13 ،39 ،39 ،25 ،12 ،12 ،11 ،21 ،38 ،37 ، 20 ،10 Represent these scores with a stem-and-leaf plot, then find both the median and the mode

3) From the opposite box plot, what is the value of the median?



4) From the graph opposite:

what is the most frequent number of play hours?



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Group (C)

First- Choose the correct answer:

1) If the range for a set of values is 16, and the minimum value is 8, then the maximum value is……....

a) 16 b) 8 c) 32 d) 24

Second - Answer the following:

1) If the mode for the set of values: 7, 4, 5, 6, x+ 1, 3 is 7, then find the value of x

2) The following data represents the scores of (25) students in a test:

13،15،13،15،16 ،28 ،28،29،28،29 ،36،36 ،25،27 ،12 ،12 ،35 ،35 ،35 ،35 ،21 ،11 ،34 ، 20 ،10

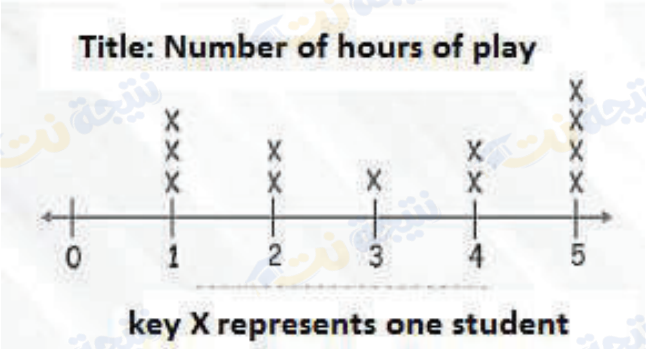
Represent these scores with a stem-and-leaf plot, then find both the median and the mode

3) From the opposite box plot, what is the value of the minimum value?



4) From the graph opposite:

what is the least frequent number of play hours?



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Unit (3) | Week (.....) | Lesson (2) Arithmetic Mean | Date: / /

Classroom performance:

Activity 1 (Speaking Numbers):



Ask five of your colleagues about their scores in the mathematics test last month, and record this data in a table. Then calculate the following: the mean, the median, the mode. Then discuss the results with your colleagues.

Activity 2 (Weather Expert):



Use the internet to search for the maximum temperatures in your city during the last week (from Sunday to Thursday). Record the values in a table, then calculate:

the mean of the temperatures. Then discuss with your colleagues: What is the average temperature for last week? Do you expect the temperatures this week to be higher, lower, or similar?

Activity 3 (Time is a Sword):

A set of cards for the numbers from 1 to 6. From these cards, choose the number of hours you spend studying each subject during the week. Record these values in a table. (Subject - Number of study hours in the week). Calculate the arithmetic mean of the number of study hours in the week. Discussion questions: Are you satisfied with your average study hours?

Subject	Number of study hours
Arabic	
Mathematics	
Science	
Social Studies	
English	

Performances and Assessments

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Home Performance (H.W):

Answer the following questions:

1) Calculate the arithmetic mean for the set of values: 4, 5, 7, 3, 6.

2) If $\bar{x} = 7$, $\Sigma f = 8$ for a set of data, what is the value of $\Sigma f.x$?

3) If the mean of a student's scores in (5) tests is (75), and she got the scores 75, 65, 95, 80, what is the score of the fifth test?

4) Samir got the following scores in mathematics: 19, 20, 18, 15, 3. If the teacher removed the extreme value, will the value of the arithmetic mean be affected? Will it decrease or increase?

5) The following table shows the number of mathematics studying hours for 20 students in five days. Calculate the arithmetic mean to the studying hours for these students

Number of hours	8	9	10	11	12
Frequency	3	4	7	4	2

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Weekly Assessment – Week .....

Group (A)

First - Choose the correct answer :

1) If the sum of (5) numbers is (90), then the arithmetic mean of these numbers is equal to .....

a) 8 b) 10 c) 16 d) 8

Second - Answer the following:

1) If the data set has $\sum(f.x) = 48$, $\bar{x}$=6. Then what is the value of $\sum f$?

2) If the mode of the values: 9, 7, m+3, 1, 7, 9 is 9.
Find the value of m and then find the arithmetic mean of these values.

3) If Walid's marks in mathematics for three consecutive months are 90, 85, 95. Calculate the mean of Walid's marks.

4) The following table shows the ages of 25 children. Calculate the mean ages of the children:

Child age in years	5	8	9	10	12
Number of children	4	2	6	8	5

Group (B)

First - Choose the correct answer :

1) If the sum of 6 numbers is 90, then the arithmetic mean of these numbers is equal to .....

a) 6 b) 15 c) 16 d) 18

Second - Answer the following:

1) If the mode of the values: 15, 8, 1 + m, 15, 12, 8 is 8. Find the value and then find the arithmetic mean of these values.

2) If the data set has: $\sum f = 10$, $\bar{x}$=6. Then what is the value of Σ (f. x)?

3) If Hajar's marks in mathematics for three consecutive months are 88, 97, 85, calculate Hajar's mean mark.

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4) The following table shows the ages of (20) children. Calculate the mean ages of the children:

Child age in years	5	8	9	10	12
Number of children	4	2	6	3	5

Group (C)

First - Choose the correct answer :

1) If the sum of 3 numbers is 63, then the arithmetic mean of these numbers is equal to .....

a) 6 b) 60 c) 21 d) 66

Second - Answer the following:

1) If the data set has $\sum(f.x) = 35$, $\sum f = 7$. Then what is the value of $\overline{x}$?

2) If the mode of the values: 12, 10, a+4, 12, 4, 10 is 12.

Find the value of m and then find the arithmetic mean of these values.

3) If Walaa's marks in mathematics for three consecutive months are 98, 95, 95. Calculate the mean of Walaa's marks.

4) The following table shows the ages of 20 children. Calculate the mean ages of the children:

Child age in years	6	7	9	10	11
Number of children	4	2	6	3	5

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Unit (3) | Week (.....) | Lesson (3) Pie Charts | Date: / /

Classroom performance:

Activity 1 (Miss Pizza)



What is your favorite pizza flavor? (cheese, Vegetable, Chicken, Meat, Tuna)

Participate with 10 classmates, collect votes, and organize the data in a table.

Represent the data using pie charts. You can use circular cardboard pieces as a model for your pizza to color and decorate.

Note: The work will be evaluated for accuracy, speed, and beauty.

Activity 2 (Breakfast)

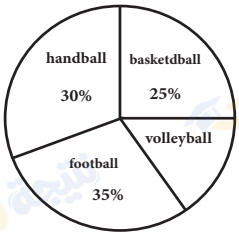


During a discussion between you and your classmates about the importance of eating breakfast for health, their answers about their favorite meal were as follows:

(10) students prefer to eat beans (6) students prefer to eat eggs (8) students prefer to eat cheese (7) students prefer to eat potatoes (5) students prefer to eat fruit salad. Organize this data in a table showing the type of food and the number of students. Then, represent the data using pie charts in an organized and colorful way.

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Home Performance (H.W):



First - In the corresponding pie chart:

1) Find the percentage of volleyball and the measure of its central angle.

2) If the number of students participating in sports activities is 200, calculate the number of students participating in the football activity.

3) Which activity had the largest number of students participating?

Second - Data Representation

(1) Complete the table and then represent the following data with pie charts:

Components of a supermarket	Food	Vegetables	Drinks	Sweets
Percentage	40%	5%	35%	……..

2) The following table shows the number of votes each student received in the class leader elections.

Name	Farida	Asmaa	Sara	Marim
Number of votes	10	8	9	9

Represent the previous data with pie charts

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Weekly Assessment – Week ……

Group (A)

First: Choose the correct answer:

1) In the table opposite:

Preferred Subject	Mathematics	Science	Social Studies
Number of students	250	200	150

Measure of the central angle corresponding to the mathematics sector:

a) 90º b) 45º c) 150º d) 120º

Second: Answer the following:

1) In the opposite pie chart: Find the percentage representing the football sector

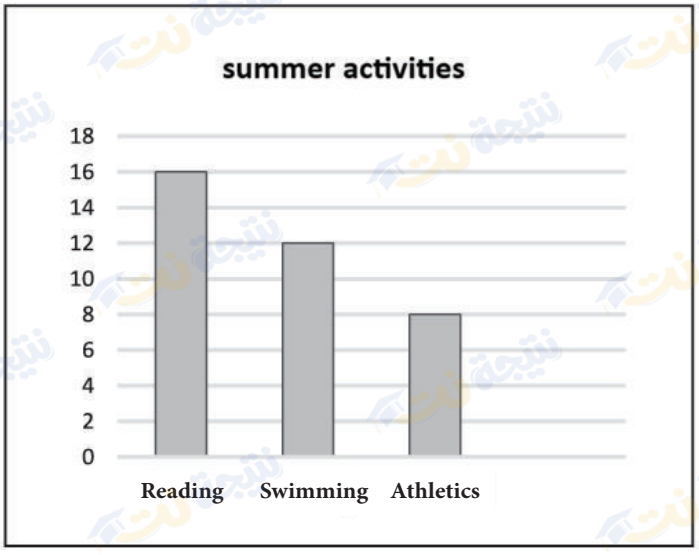


The graph below shows the number of students who prefer to participate in summer activities. Answer the following questions:

2) Represent this data using pie charts.

3) Which activity did the largest number of students participate in?

4) What percentage of the activity did the fewest number of students participate in?



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Group (B)

First: Choose the correct answer :

1) In the opposite table:

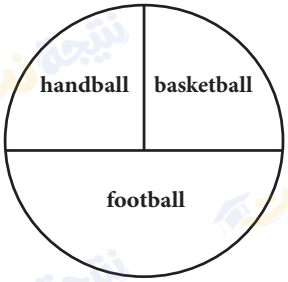
Preferred Subject	Mathematics	Science	Social Studies
Number of students	250	200	150

Measure of the central angle corresponding to the science sector:

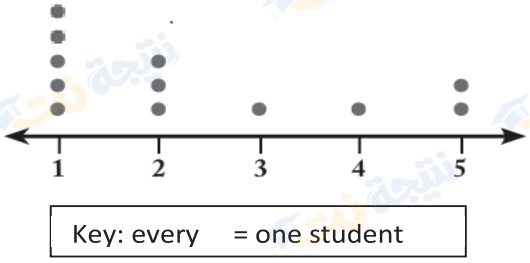
a) 90º b) 45º c) 150º d) 120º

Second: Answer the following:

1) In the opposite pie chart: What is the percentage representing the basketball sector ?



The plot chart below shows the number of mathematics studying hours for 12 students. Answer the following questions:



2) Represent this data using pie chart.

3) How many students study for 5 hours?

4) What is the percentage of students studying for 2 hours?

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Group (C)

First - Choose the correct answer:

1) In the opposite table:

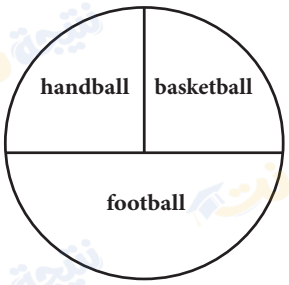
Preferred Subject	Mathematics	Science	Social Studies
Number of students	250	200	150

Measure of the central angle corresponding to the Social Studies sector:

a) 90° b) 45° c) 150° d) 120°

Second: Answer the following:

1) In the opposite pie chart: What is the percentage representing the handball and basketball sectors ?



The following table shows the number of mathematics studying hours for 36 students in a week. Answer the following:

interval	2-	4-	6-	8-	10-
Number of children	6	7	9	5	9

2) Represent this data using pie chart.

3) What is the percentage of students studying less than 4 hours?

4) What is the percentage of students studying 4 hours and more?

General revision

First - Choose the correct answer :

1) If 6, X, 3, 2, are proportional, then x = …..

a) 4 b) 8 c) 5 d) 12

2) Measure of the angle of the regular hexagon = ……..

a) 120 b)108 c) 135 d)60

3) If a person's age is x years now, then his age 6 years ago was...

a) X+6 b) x-6 c) 6x d) $\frac{x}{6}$

4) The angle with a measure of 40° degrees complements an angle with a measure of...

a) 90° b) 40° c) 50° d) 140°

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5) If the arithmetic mean of the values 3, 5, 9, 7, x is 6, what is the value of x?

a) 30 b) 6 c) 10 d) 12

Second: Answer the following questions:

1) If ABCD is a parallelogram with $m(\angle A) = 120°$, Find $m(\angle D)$

2) If a set of data has $\Sigma (f.x) = 40$, $\Sigma f = 10$, then what is the value of X?

3) What is the solution set for the equation $2x + 5 = 3$ in Z ?

4) A land with an area of (63) Fadans was divided between two persons in the ratio of 4:5. Fine the share of one of them.

5) Which point represents the projection of point (-3,5) on the x-axis?

6) If $\{1, 3, 5\} \subset \{3, x, y, 9\}$, Find x+y

7) What is the sum of the measures of the interior angles of a triangle?

8) The opposite stem and leaf diagram shows the scores of 10 students on math tests. Then the median of these scores .

stem	leafs
1	7 8 9 9
2	3 5 5 5 8
3	0

Key 1|7 equal 17

9) Add, a+a+a = ……

10) If $a + \frac{7}{6} = 0$, then a=…..

11) Three persons participated in a project with a capital of 500,000 pounds, at a ratio of 2:5:3. Calculate the amount each person contributed in capital.

12) If A = {1,3,5}, B = {1,2,3,7} find

1) $A \cap B$ 2) $A \cup B$

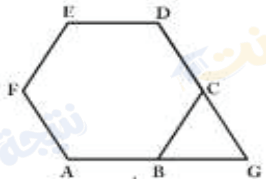
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13) The table opposite shows the number of minutes a group of people spend in telephone conversations.

Minutes (x)	2	3	4	5	6
Frequency (f)	12	20	36	20	12

Calculate the arithmetic mean for a person spends in a telephone conversation.

14) Simplify 2(3a - 2b) + 3(a + 2b) to its simplest form: Then find the numerical value if a = 1, b = 2.



15) In the figure opposite,

ABCDEF is a regular hexagon.

Prove that triangle BCG is equilateral.

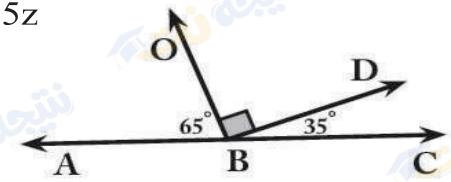
16) Find the solution set in Q. $\frac{1}{3}x + 4 = 13$

17) A man died and left 300,000 pounds to his wife, two sons and a daughter. If the wife's share is 1/8, then the remainder is distributed among his two sons and a daughter. What is the son's share and the daughter's share? Note that the son's share to the daughter's share is 2:1.

18) A pentagon ABCDE has $m(\angle C) = 80^\circ$, $m(\angle B) = 90^\circ$, $m(\angle A) = 120^\circ$ and $m(\angle D) = 60^\circ$

Prove that the polygon is concave.

19) Add the two quantities 3x + 4y - 7z , x - 2y + 5z



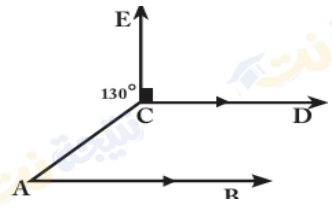
20) In the opposite figure,

Are: $\overrightarrow{BA}$ and $\overrightarrow{BC}$ collinear or not? And why?

21) In the opposite figure,

$\overrightarrow{AB} // \overrightarrow{CD}$ $m(\angle ECA) = 130^\circ$, $m(\angle ECD) = 90^\circ$

Find with prove $m(\angle A)$



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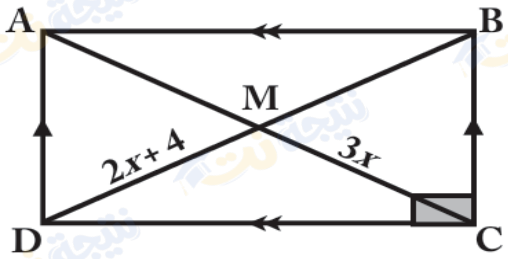
22) Find the coordinates of the mid-point of $\overline{AB}$ where A(-4,-3), B(-2,5)

23) subtract (3x + 13) from (7x + 15)

24) A model of the Cairo Tower was designed with drawing scale of 1:1200. If the height of the Cairo Tower is 187 meters, what is the height of the tower in the model in centimeters?

25) In the opposite figure:

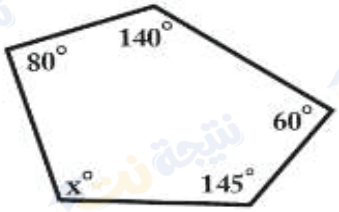
Find with prove the value of x



26) If $x=\frac{3}{2}$, $y=\frac{-1}{4}$, z = -2. Find in the simplest form the value of the expression x-(z ÷y)

27) In the opposite figure:

Find with prove the value of x



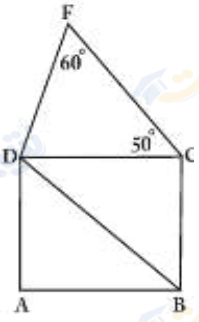
28) In a questionnaire, a group of people were asked about their favorite sports. The results were as follows.

sport	Handball	Basketball	Football	Volleyball
Percentage	15%	25%	45%	……..

Complete the table and then represent the results with pie charts.

29) In the opposite figure:

ABCD is a square, find with prove m(∠BDF)



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30) The following data represents the temperatures recorded in a city over three-weeks.

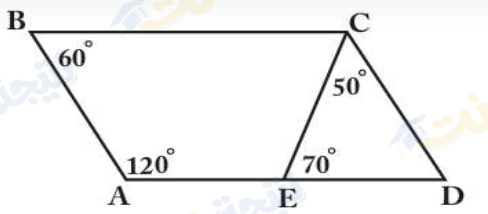
21	41	42	26	25	25	24
25	19	18	41	17	40	38
32	29	33	28	34	43	33

Draw a stem-and-leaf diagram and then deduce the median and the first quartile from it.

31) Using the properties of addition in Q, find in the simplest form 5/8 + (-3/4) + 3/8 + 3/4.

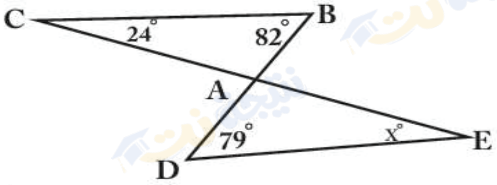
32) If Galal's grades in mathematics for three consecutive months are 95, 85, 90, find the mean of Galal's grades

33) In the opposite figure: Prove that ABCD is a parallelogram.



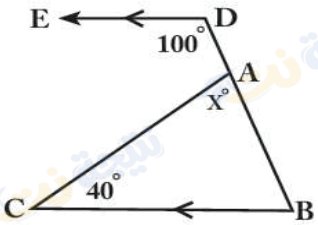
34) In the opposite figure:

Find with prove the value of x



35) In the opposite figure:

Find with prove the value of x



36) If the point (k – 4, 2k + 1) lies on the x-axis, find the coordinates of point A.

37) A triangle has a ratio of 4:3:2 between the measure of its internal angles. Determine the type of triangle according to its angles.

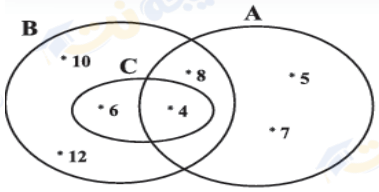
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38) A man distributed a sum of money to three persons. He gave the first (x + 7) pounds, the second (3x - 1) pounds, and the third (4x + 3) pounds. Write in simplest form the algebraic expression that represents the amount distributed. Then, find the value of the amount in pounds if x = 10.

39) Using the corresponding Venn diagram, find:

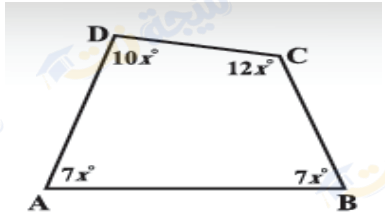
1)A∩B 2) A∩C

3)A∩B∩C 4) (B∩C)∪ A



40) In the opposite figure:

Find with prove the value of x

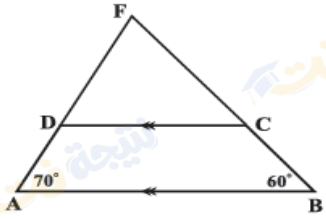


41) The perimeter of an equilateral triangle is 27 cm. Find the length of its side.

42) If the arithmetic mean of the values 15, 3A-6, 10, 2A + 2 is 14, find the value of A. Then find the median of these values.

43) In the opposite figure:

Find with proof m(∠ F)



44) ABC is a triangle in which the length of $\overline{AB}$ is 5 cm. The length of $\overline{BC}$ is 8 cm. What is the smallest integer value that the length of $\overline{AC}$ can take?

45) If it a=3, b=-4, c=2 , find the value of the expression in its simplest form.

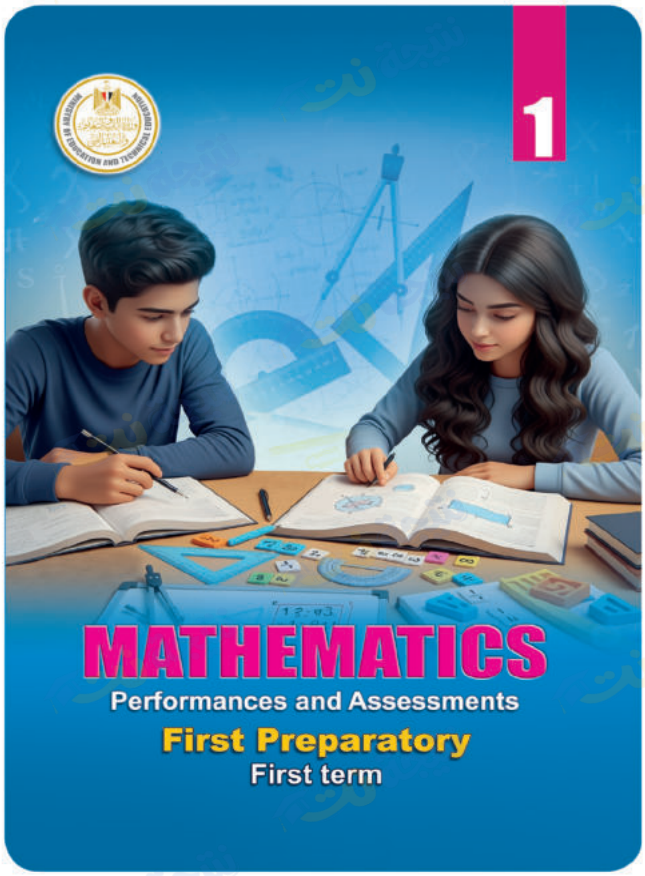
(2a + b) ÷ c

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Preparation , Translated and Revised

Ms. Mana Azkool
Dr. Mohamed Mohi El-Din Abd-Elsalam
Mr. Osama Abd-Elazim Abd-Elsalam
Mr. Samir Mohamed Seedawy
Mr. Emad Hasan Omar
Mr, Husin Galal El-Sayed
Mr. Mohamed Ali Qasem
Ms. Ayman Ragab Moawad
Mr. Mohamed El Sayed Ahmed
Mr. Akram Hassan

Dr. Gebril Anwer Hemeda



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