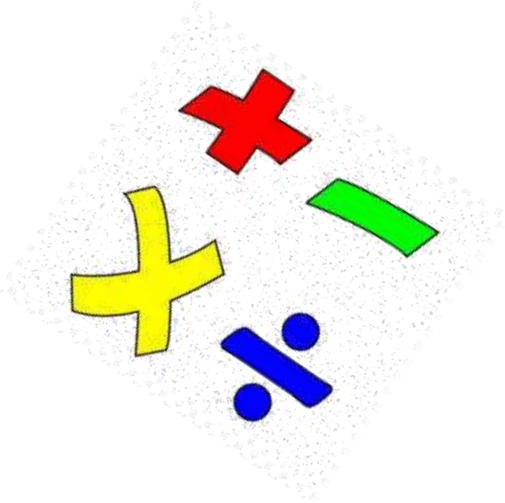
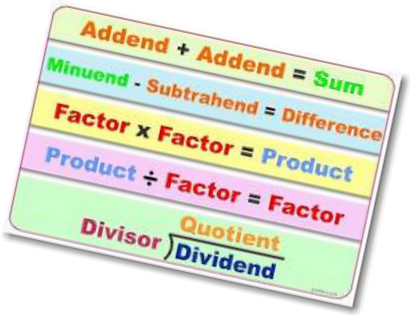
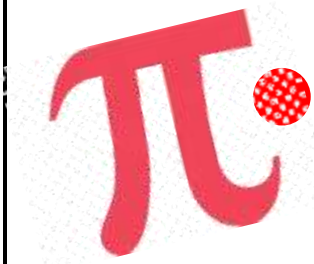




Math

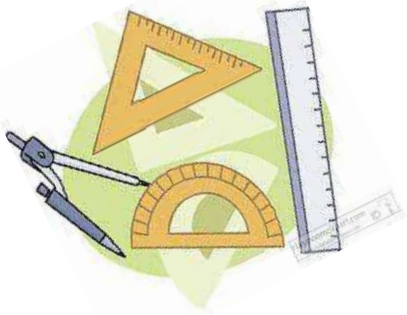
Prep 1 1st term



October Revision

Teacher

Eman Samir



Unit 1

Q1 Choose the correct answer :-

1) Which of the following ratios is proportional to the given ratio $\frac{10}{12}$?

a) $\frac{12}{10}$ b) $\frac{2}{6}$ c) $\frac{5}{4}$ d) $\frac{15}{18}$

2) Which of the following ratios is proportional to the given ratio $\frac{24}{36}$?

a) $\frac{8}{18}$ b) $\frac{10}{12}$ c) $\frac{10}{15}$ d) $\frac{16}{28}$

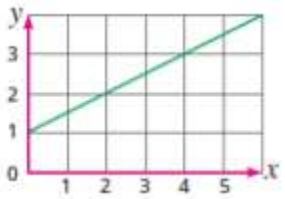
3) Which of the following pairs of ratios are NOT proportional ?

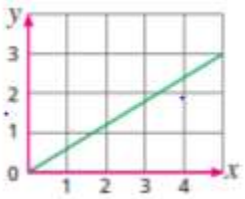
a) $\frac{2}{5} = \frac{12}{30}$ b) $\frac{8}{10} = \frac{12}{15}$ c) $\frac{7}{8} = \frac{35}{40}$ d) $\frac{3}{4} = \frac{12}{18}$

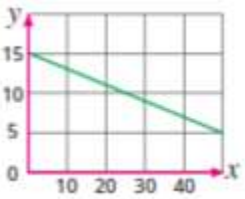
4) If $\frac{8}{x} = 0.5$, then X = ...

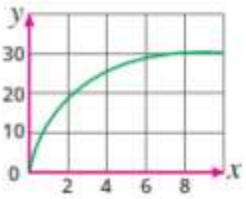
a) 8 b) 4 c) 16 d) 40

5) Which of the following figure represent proportion









6) If $\frac{18}{24} = \frac{3}{a-1}$ what is the value of a ?

a) 6 b) 4 c) 5 d) 3

7) If $\frac{X}{Y} = \frac{3}{4}$, then $\frac{4X}{Y}$ = ...

a) $\frac{3}{4}$ b) 1 c) 3 d) $\frac{1}{3}$

8) If the length on drawing is 8 cm and the real length is 320 km , what is the scale drawing ?

a) 4,000,000 : 1 b) 1 : 400,00 c) 1 : 4,000,000 d) 1 : 40

9) Which of the following scale drawings is equivalent to " every 1 cm in the drawing represents 6.5 km in reality " ?

a) 1 : 6,000,000 b) 1 : 6,500 c) 1 : 650,000 d) 1 : 6.5

10) If the length of an insect 0.3 mm and its length after magnification is 4.5 cm , what is the magnification ratio ?

a) 1 : 15 b) 15 : 1 c) 1 : 150 d) 150 : 1

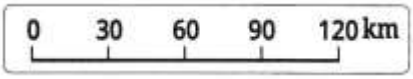
11) Which of the following scale drawings represents a minimization ?

a) 1 : 7000 b) 70 : 1 c) 7000: 1 d) 500 : 1

12) If the scale drawing is 1 : 1000 the length in the drawing is 2.5 cm , then what is the real length in meters ?

a) 250 meters b) 25 meters c) 2.5 meters d) 0.25 meter

13) If the scale of a map is as shown in the opposite figure and the distance between two cities on this map is 3cm , what is the actual distance between them ?



a) 30 km b)1,200,000 cm c) 90 km d) 90,000 cm

14) If a : b = 3 : 7 , and a + b = 40 then the value of b – a is ……

a) 16 b) 12 c) 14 d) 28

15) If a : b = 2 : 5 , and a = 14 then the value of b is ……

a) 7 b) 2 c) 10 d) 35

16) If a : b : c = 3 : 2 : 4 , and c - b = 20 then the value of a is ……

a) 10 b) 20 c) 30 d) 40

17) Yara has a meal in a restaurant , the price of the meal is 60 LE with an additional 14% task rate , what is the amount Yara paid ?

a) 8.4 LE b) 51.6 LE c) 68.4 LE d) 16.8 LE

18) Mohamed deposited 50,000 LE in a bank with an annual interest 18% what is the total amount Mohamed will receive after one year of deposit ?

a) 9,000 LE b) 41,000 LE c) 59,000 LE d) 68,000 LE

19) If an item price was reduced from 1,500 LE to 1,200 LE , what is the deduction rate ?

a) 3% b) 30% c) 15 % d) 20%

20) If the price of a car increases from 240,000 LE to 300,000 LE , what is the rate of increase ?

a) 25% b) 60% c) 5 % d) 30%

21) A box contains 240 colored balls , 35% of which are yellow , how many yellow balls are there ?

a) 4 balls b) 120 balls c) 71 balls d) 84 balls

22) If the price of an item is reduced from 2,700 LE to 2,484 LE , what is the discount rate ?

a) 8% b) 10% c) 6 % d) 18%

23) If 15% of X equals 20% of Y , what is the ratio of X : Y ?

a) 5 : 4 b) 3 : 2 c) 4 : 3 d) 3 : 4

24) If $A = \{2, 5, 8\}$, then which of the following is correct ?

a) $\{2\} \in A$ b) $\{3\} \notin A$ c) $\{5\} \subset A$ d) $\{5, 8\} \not\subset A$

25) If $A = \{2, 4, 7\}$, and $B \subset A$,then which of the following can be the set B ?

a) $\{4, 6\}$ b) $\{3, 4, 7\}$ c) $\{1, 3, 5\}$ d) $\{2, 7\}$

26) If $A = \{8, 9, 6\}$, $B = \{2, 6, 7\}$ then which express $A \cup B$?

a) $\{6\}$ b) $\{8, 9\}$ c) $\{2, 6, 7, 8, 9\}$ d) $\{2, 7\}$

27) If $A = \{8, 9, 6\}$, $B = \{2, 6, 7\}$ then which express $A \cap B$?

a) $\{6\}$ b) $\{8, 9\}$ c) $\{2, 6, 7, 8, 9\}$ d) $\{2, 7\}$

28) If $A = \{5, 7\}$, then what is the number of all subsets of set A?

a) 5 b) 4 c) 2 d) 8

29) If $\{3, 7, X, 6\} = \{3, 6, Y, 5\}$ then what is the value of Y - X ?

a) -12 b) -2 c) 2 d) 12

30) If $\{8, 2X\} = \{6, 8\}$, then what is the value of X ?

a) 6 b) 4 c) 3 d) 8

31) $Z \cup N$ = ...

a) N b) Z c) Q d) Ø

32) $Z \cup Q$ = ...

a) N b) Z c) Q d) Ø

33) $\{1, 2\}$ ..... $\{2, 1\}$

a) $\in$ b) $\subset$ c) $\notin$ d) $\notin$

34) Ø ..... $\{1, 2\}$

a) $\in$ b) $\subset$ c) $\notin$ d) $\notin$

35) 0 ..... Ø

a) $\in$ b) $\subset$ c) $\notin$ d) $\notin$

36) Q ..... Z

a) $\in$ b) $\subset$ c) $\notin$ d) $\notin$

37) N ..... Q

a) $\in$ b) $\subset$ c) $\notin$ d) $\notin$

38) $\{\frac{1}{2}, 1, 2\}$ ..... Q

a) $\in$ b) $\subset$ c) $\not\subset$ d) $\notin$

39) Which of the following sums has a positive sign ?

a) 19+(-26) b) -25+(-12) c) -35+17 d) 40+(-18)

40) $|-5|$ + ... = 0

a) -5 b) 5 c) 1 d) 0

41) 3 - $|-3|$ = ...

a) 3 b) 6 c) 1 d) 0

42) If n is a negative integer which of the following is the greatest ?

a) 3n b) -3n c) $\frac{n}{3}$ d) $\frac{3}{n}$

43) If a + b = 0 then a×b 0

a) < b) > c)=

44) $\frac{3}{4}$ + 50% = ...

a) 75% b) 150% c) $\frac{3}{2}$ d) $\frac{5}{4}$

45) If $\frac{2}{3} \times X = \frac{5}{7} \times \frac{2}{3}$, then X = ...

a) $\frac{3}{2}$ b) $\frac{2}{3}$ c) $\frac{5}{7}$ d) $\frac{7}{5}$

46) $0.\overline{7} \div \frac{1}{3}$ = ...

a) $\frac{3}{7}$ b) $\frac{7}{21}$ c) $\frac{7}{3}$ d) $\frac{21}{10}$

47) If (X – 1) is the multiplicative inverse of $\frac{1}{5}$, then X = ...

a) 4 b) 5 c) 6 d) $1\frac{1}{5}$

48) $\frac{3}{4}$ exceeds $\frac{3}{8}$ by the amount of = ...

a) $\frac{3}{8}$ b) $-\frac{3}{8}$ c) $\frac{9}{8}$ d) $-\frac{9}{8}$

49) If 3 times a number is 27 the $\frac{1}{3}$ of this number = ...

a) 3 b) $\frac{3}{2}$ c) $\frac{9}{4}$ d) 1

50) If $\frac{X}{Y} = \frac{2}{3}$, then $\frac{3X}{2Y}$ = ...

a) $\frac{3}{2}$ b) $\frac{1}{3}$ c) $\frac{9}{4}$ d) 1

51) If $\frac{|X|}{5} = 3$, then X = ...

a) 15 b) 5 c) 10 d) ± 15

Q2 Complete the following :-

1) $\frac{3}{5} = \frac{.....}{15}$

2) $\frac{18}{12} = \frac{12}{.....}$

3) $\frac{15}{X} = \frac{30}{12}$

4) 7 : 8 = 21 : m

5) $\frac{m-3}{12} = \frac{5}{4}$

6) $\frac{16}{3X} = \frac{8}{12}$

7) $\frac{1}{3} = \frac{2}{b+1}$

8) $\frac{8}{y} = \frac{y}{2}$

9) $\frac{14}{X} = \frac{y}{7}$, then xy = ……

10) If 2 , 7 , X , 21 are proportion then X = ……

11) The forth proportional to the numbers 7 , 21 , 9 is ……

12) If $\frac{K}{4}$ = 9 , then , the value of $\frac{1}{2}$ K – 7 = ……

13) Seif packed 100 cardboard boxes in 2.5 hours , it would take seif …… hours to pack 160 boxes , working at the same rate.

14) If the scale drawing is > 1 , it represents …… , but if the scale drawing is < 1 , it represents ……

15) If the scale drawing is 1 : 200 it represents ……

16) If the length the drawing is 5 cm , and the real length is 15 meters , then the scale drawing = ……

17) If the length of an insect in the picture is 4 cm , and its real length is 2 mm , then the scale drawing = ……

18) If the magnification ratio of an insect"s image 30 : 1 and the insect"s real length is $2\frac{1}{2}$ mm , then the length of the insect in the image in centimeters is ……

19) If the scale on the map is 1 : 600,000 and the distance between two points on the map is 4.5 cm , then the real distance between the two points = ……

20) Malak drew a picture to her sister Farida , if the scale drawing is 1 : 4 and Farida"s height is 160 cm , then Farida"s height in the picture = ……

21) If the actual length is 90 meters , and the scale is 1 : 10,000 then the length in the drawing in centimeters = ……

22) The ratio between two numbers 2 : 5 , if the smaller number is 48 , then the larger number is ……

23) 120 LE. were divided between two persons in the ratio of 2 : 3 , then the share of the smaller one is ……

24) If the number of students in a school is 576 , and the ratio of girls to boys is 5 : 3 , then the increase of the number of girls than boys is ……

25) 360 LE. were distributed between Yara and Maria in the ratio of 7 : 5 , then the ratio of each one is …… and ……

26) The ratio between the length of the sides in a triangle 3:4:5 , if its perimeter is 36 cm , then the length of the longest side is ……

27) -2 + (…… + 5) = -2
28) 0 + …… = |-7|
29) -4 + …… = -4
30) -7-(-8) = ……
31) The additive identity in ℤ is ……
32) The additive inverse of -7 is ……
33) The additive inverse of 0 is ……
34) The result of subtracting -5 from 3 is ……
35) -5 + 3 = 3 + (-5) (…… property)
36) 0 + (-7) = -7 (…… property)
37) 6 + (-6) = 0 (…… property)
38) -a + a = 0 (…… property)
39) 1 × -12 = -12 (…… property)
40) (-5) × 2 = 2 × (-5) (…… property)
41) (-2 + 5) + 3 =-2 + (5 + 3) (…… property)
42) The multiplicative identity in ℤ is ……
43) The product of two integers with different signs is a …… integer
44) -7 × …… = -56
45) If a = 3 and b = -2 , then the value of 3ab = ……
46) A × (B+C) = …… + A × C
47) If a × b = a , then b = ……

48) If a ÷ b = a , then b = ...

49) If X = |-4| and Y = -1 , then XY = ...

50) $\frac{7}{20}$ = ... %

51) $\frac{21}{1000}$ = ... %

52) |-0.4| = ... %

53) $0.\overline{2}$ = ... (in the form $\frac{a}{b}$)

54) $\frac{5}{8}$ = ... (in decimal form)

55) The additive inverse of $\frac{-6}{-11}$ is .....

56) The additive inverse of $|-\frac{3}{5}|$ is .....

57) The additive inverse of -2.3 is .....

58) The additive inverse of $(-2)^3$ is .....

59) The additive identity in $\mathbb{Q}$ is .....

60) 60% + $\frac{3}{10}$ - 0.14 = ...

61) If $\frac{a}{b}$ is a rational number , then b ≠ .....

62) The multiplicative identity in $\mathbb{Q}$ is .....

63) The multiplicative inverse of $\frac{3}{7}$ is .....

64) The multiplicative inverse of $-\frac{4}{9}$ is .....

65) The multiplicative inverse of $-3\frac{1}{2}$ is .....

66) The multiplicative inverse of -3 is .....

67) The multiplicative inverse of 0.5 is .....

68) The multiplicative inverse of 1 is .....

69) The multiplicative inverse of -1 is .....

70) The multiplicative inverse of $|-\frac{3}{5}|$ is .....

71) The multiplicative inverse of 60% is .....

72) The rational number $\frac{a-1}{5}$ has a multiplicative inverse if a ≠.....

73) The rational number that does not have a multiplicative inverse is .....

74) The result of subtracting $\frac{1}{7}$ from $\frac{8}{7}$ = ...

75) $1 \div \frac{4}{9}$ = ...

76) $-\frac{4}{7} \times$ ..... = $-\frac{4}{7}$

77) $2\frac{3}{5} \times$ ..... = 1

78) $4 \times$ ..... = -5

79) $\frac{1}{4} \times 25\%$ = ...

80) $-\frac{4}{9} \times$ ..... = 1

81) ..... $\times 0.8 = 1$

82) If $\{5, Y\} = \{7, X\}$, then X = ... and Y = ...

83) If $X \in \{5, 3, 10\}$, X is a prime factor of 6 then X = ...

84) If $\{6, Y+2\} = \{3, X-2\}$, then X = ... and Y = ...

85) If $A \subset B$, then $A \cap B$ = ... , $A \cup B$ = ...

86) If A = B , then $A \cap B$ = ... , $A \cup B$ = ...

87) $A \cap \emptyset$ = ...

88) $\emptyset \cup X$ =.....

89) $A \cap A$ = ...

90) If $X \cap Y = Y$, then ..... $\subset$ .....

Q3 Answer the following :-

1) Seif bought 8 apples for 60 L.E. , how many apples of the same type can he buy for 105 L.E. ?

2) $\frac{3}{4}$ liter of milk costs 24 pounds , how much would $1\frac{3}{4}$ liters cost ?

3) Yara reads 15 pages in 50 minutes , what is the time in hours that she will take to read a book of 180 pages if she reads at the same rate ?

4) A car uses 5 liters of petrol to cover a distance of 40 km , how much petrol would the car to cover the distance 128 km if it travel at the same rate ?

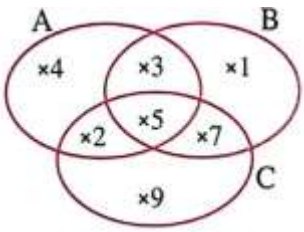
5) A man wants to divide 8,000 LE. among his three sons in the ratio of 1 : 2 : 5 , find the ratio of each one .

6) A sum of money was divided among three persons in the ratio of 4 : 2 : 1 , if the share of the first person exceeds the share of the third person by 900 LE , find the share of each one.

7) Seif earns twice as much as Marwan , if the sum of their wages is 36,000 LE. , what is the wage for each of them ?

8) A watch was offered with a discount rate is 25% off during a sale , if the price of the watch was 720 LE , what is the price of the watch after the discount ?

9) From the opposite venn diagram , find



$A \cap B$ = ...

$A \cap B \cap C$ = ...

$C \cup B$ = ...

10) Use the properties of addition & multiplication to find :-

a) -5 + (-13) + 5

b) 25 + (-8) + (-25) +7

c) (-2) × (-25) × (-50) × 4

d) 50 × (-45) × 2

e) 3 × (-2) + 3 × 5

f) 15 × 99

g) $32 \times 18 - 32 \times 34 + 32 \times 17$

h) -7×102

i) $\frac{3}{4} + \frac{1}{2} + \frac{1}{4}$

j) $\frac{2}{7} + \frac{3}{4} + \frac{5}{7} + \frac{1}{4}$

k) $\frac{5}{12} \times 3 + \frac{5}{12} \times 9$

l) $-\frac{4}{9} \times 8 + 9 \times (\frac{-4}{9}) + \frac{-4}{9}$

11) If a = 15 and b = -5 , find the result of the following :-

a) $|9 - a|$

b) $a - b$

c) $|3 - b|$

d) $b - (-a)$

12) If a = $1\frac{3}{4}$ and b = $\frac{12}{7}$ c = $\frac{2}{3}$, find the numerical value of the following :-

a) abc + 3

b) ab - c

13) A rectangle has an area of $50\frac{3}{4}$ cm^2 and a length of $9\frac{2}{3}$ cm , calculate the width .

14) Find the area of a triangle with a base length $\frac{1}{4}m$ and the corresponding height of $1\frac{1}{2}m$.

Unit 2

Q1 Choose the correct answer :-

1) The constant term in the algebraic expression 2xy+3y-5 is ……
a) 5 b) 3y c) -5 d) 2xy

2) The number of algebraic terms in 45 a b c is ……
a) 1 b) 2 c) 3 d) 4

3) The like term to the term a^2 b in the algebraic expression $b^2a-3ab+7ba^2$ is ……
a) b^2a b) -3ab c) $7ba^2$ d) None

4) X + 5 > 6 is ……
a) algebraic expression b) equation c) inequality d) formula

5) The area of square = side × side is ……
a) algebraic expression b) equation c) inequality d) formula

6) a + a + a = ……
a) 3a b) 3 + a c) $3a^3$ d) a^3

7) 5x + (-3x) = ……
a) 8x b) 2x c) -2x d) -8x

8) Which of the following pairs of terms are like terms ?
a) 7x , 7 b) x^2 , y^2 c) 3a , 8a d) 2x , $-2x^2$

9) If a = 2b , b = 15 then the numerical value of expression a + 2b + 5 = ……
a) 40 b) 65 c) 35 d) 20

10) What is the algebraic expression equivalent to 2y + 5 – 4y – 6?
a) 2y + 1 b) -2y - 1 c) 2y -1 d) -2y + 1

11) What is the simplest form of 7b + 4a - 2 - 2b + 3a + 2 ?

a) 5b + a + 2 b) 5b + 7a c) 5b + a d) 9b + 7a + 4

12) Which of the following doesn't equal 4a ?

a) 4 + a b) 2a + 2a c) a + a + a + a d) a + 3a

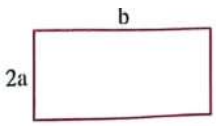
13) What is the mathematical formula of the area (A) of a parallelogram with base length (L) and corresponding height (h) ?

a) $A = \frac{1}{2} L\ h$ b) $A = \frac{L}{h}$ c) Lh d) L + h

14) What is the suitable equation to find the side length of an equilateral triangle whose perimeter 12 cm ?

a) x + 3 = 12 b) 3x = 12 c) x = 12 d) 2x = 12

15) What is the algebraic expression representing the perimeter of the following rectangle ?



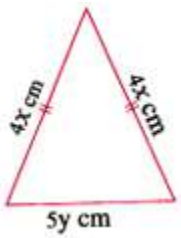
a) b + 2a b) a + 2b c) 4a + 2b d) 2ab

Q2 Complete the following :-

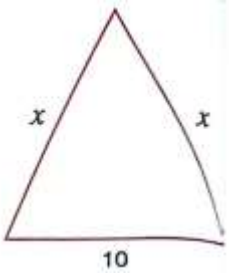
1) -3y+5y-6 in the simplest form is ……
2) The result of subtracting 2b from 5b is ……
3) The algebraic term that if added to -7m , the result will be -9m is ……
4) The algebraic term that if subtracted from 8x , the result will be -4x is ……
5) The algebraic term -3y exceeds the algebraic term 2y by ……
6) The algebraic term 8k is less than the algebraic term -3k by ……
7) -15x + 12x = ……
8) -x + 2y – 8y + 5x + 7 =……

Q3 Answer the following :-

1) From the opposite figure :-
   a. Mathematical expression that represents the perimeter is ……
   b. simplest form ……
   c. numerical value of the perimeter at y=2 x=3 is ……



2) The perimeter of the opposite triangle is 34 cm , then what is the value of x .



Answers

Unit 1

Q1 Choose the correct answer :-

1) Which of the following ratios is proportional to the given ratio $\frac{10}{12}$?

a) $\frac{12}{10}$ b) $\frac{2}{6}$ c) $\frac{5}{4}$ d) $\frac{15}{18}$

2) Which of the following ratios is proportional to the given ratio $\frac{24}{36}$?

a) $\frac{8}{18}$ b) $\frac{10}{12}$ c) $\frac{10}{15}$ d) $\frac{16}{28}$

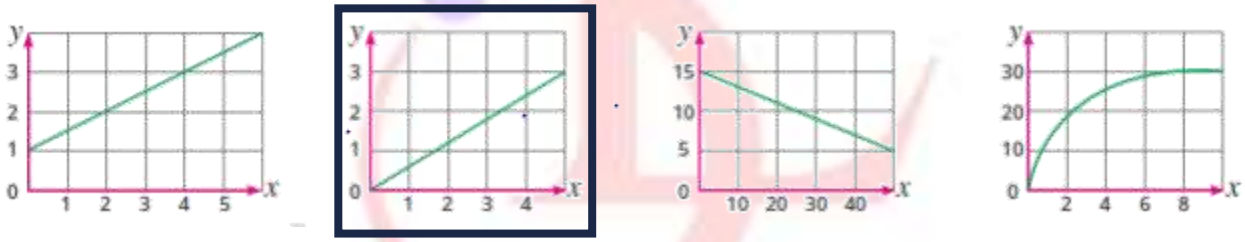
3) Which of the following pairs of ratios are NOT proportional ?

a) $\frac{2}{5} = \frac{12}{30}$ b) $\frac{8}{10} = \frac{12}{15}$ c) $\frac{7}{8} = \frac{35}{40}$ d) $\frac{3}{4} = \frac{12}{18}$

4) If $\frac{8}{x} = 0.5$, then X = ...

a) 8 b) 4 c) 16 d) 40

5) Which of the following figure represent proportion



6) If $\frac{18}{24} = \frac{3}{a-1}$ what is the value of a ?

a) 6 b) 4 c) 5 d) 3

7) If $\frac{X}{Y} = \frac{3}{4}$, then $\frac{4X}{Y}$ = ...

a) $\frac{3}{4}$ b) 1 c) 3 d) $\frac{1}{3}$

8) If the length on drawing is 8 cm and the real length is 320 km , what is the scale drawing ?

a) 4,000,000 : 1 b) 1 : 400,00 c) 1 : 4,000,000 d) 1 : 40

9) Which of the following scale drawings is equivalent to " every 1 cm in the drawing represents 6.5 km in reality " ?

a) 1 : 6,000,000 b) 1 : 6,500 c) 1 : 650,000 d) 1 : 6.5

10) If the length of an insect 0.3 mm and its length after magnification is 4.5 cm , what is the magnification ratio ?

a) 1 : 15 b) 15 : 1 c) 1 : 150 d) 150 : 1

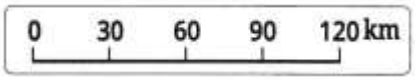
11) Which of the following scale drawings represents a minimization ?

a) 1 : 7000 b) 70 : 1 c) 7000: 1 d) 500 : 1

12) If the scale drawing is 1 : 1000 the length in the drawing is 2.5 cm , then what is the real length in meters ?

a) 250 meters b) 25 meters c) 2.5 meters d) 0.25 meter

13) If the scale of a map is as shown in the opposite figure and the distance between two cities on this map is 3cm , what is the actual distance between them ?



a) 30 km b)1,200,000 cm c) 90 km d) 90,000 cm

14) If a : b = 3 : 7 , and a + b = 40 then the value of b – a is .....

a) 16 b) 12 c) 14 d) 28

15) If a : b = 2 : 5 , and a = 14 then the value of b is .....

a) 7 b) 2 c) 10 d) 35

16) If a : b : c = 3 : 2 : 4 , and c - b = 20 then the value of a is .....

a) 10 b) 20 c) 30 d) 40

17) Yara has a meal in a restaurant , the price of the meal is 60 LE with an additional 14% task rate , what is the amount Yara paid ?

a) 8.4 LE b) 51.6 LE c) 68.4 LE d) 16.8 LE

18) Mohamed deposited 50,000 LE in a bank with an annual interest 18% what is the total amount Mohamed will receive after one year of deposit ?

a) 9,000 LE b) 41,000 LE c) 59,000 LE d) 68,000 LE

19) If an item price was reduced from 1,500 LE to 1,200 LE , what is the deduction rate ?

a) 3% b) 30% c) 15 % d) 20%

20) If the price of a car increases from 240,000 LE to 300,000 LE , what is the rate of increase ?

a) 25% b) 60% c) 5 % d) 30%

21) A box contains 240 colored balls , 35% of which are yellow , how many yellow balls are there ?

a) 4 balls b) 120 balls c) 71 balls d) 84 balls

22) If the price of an item is reduced from 2,700 LE to 2,484 LE , what is the discount rate ?

a) 8% b) 10% c) 6 % d) 18%

23) If 15% of X equals 20% of Y , what is the ratio of X : Y ?

a) 5 : 4 b) 3 : 2 c) 4 : 3 d) 3 : 4

24) If $A = \{2, 5, 8\}$, then which of the following is correct ?

a) $\{2\} \in A$ b) $\{3\} \notin A$ c) $\{5\} \subset A$ d) $\{5, 8\} \not\subset A$

25) If $A = \{2, 4, 7\}$, and $B \subset A$,then which of the following can be the set B ?

a) $\{4, 6\}$ b) $\{3, 4, 7\}$ c) $\{1, 3, 5\}$ d) $\{2, 7\}$

26) If $A = \{8, 9, 6\}$, $B = \{2, 6, 7\}$ then which express $A \cup B$?

a) $\{6\}$ b) $\{8, 9\}$ c) $\{2, 6, 7, 8, 9\}$ d) $\{2, 7\}$

27) If $A = \{8, 9, 6\}$, $B = \{2, 6, 7\}$ then which express $A \cap B$?

a) $\{6\}$ b) $\{8, 9\}$ c) $\{2, 6, 7, 8, 9\}$ d) $\{2, 7\}$

28) If $A = \{5, 7\}$, then what is the number of all subsets of set A?

a) 5 b) 4 c) 2 d) 8

29) If $\{3, 7, X, 6\} = \{3, 6, Y, 5\}$ then what is the value of Y - X ?

a) -12 b) -2 c) 2 d) 12

30) If $\{8, 2X\} = \{6, 8\}$, then what is the value of X ?

a) 6 b) 4 c) 3 d) 8

31) $Z \cup N$ = ...

a) N b) Z c) Q d) Ø

32) $Z \cup Q$ = ...

a) N b) Z c) Q d) Ø

33) $\{1, 2\}$ ..... $\{2, 1\}$

a) $\in$ b) $\subset$ c) $\notin$ d) $\notin$

34) Ø ..... $\{1, 2\}$

a) $\in$ b) $\subset$ c) $\notin$ d) $\notin$

35) 0 ..... Ø

a) $\in$ b) $\subset$ c) $\notin$ d) $\notin$

36) Q ..... Z

a) $\in$ b) $\subset$ c) $\notin$ d) $\notin$

37) N ..... Q

a) $\in$ b) $\subset$ c) $\notin$ d) $\notin$

38) $\{\frac{1}{2}, 1, 2\}$ ..... Q

a) $\in$ b) $\subset$ c) $\not\subset$ d) $\notin$

39) Which of the following sums has a positive sign ?

a) 19+(-26) b) -25+(-12) c) -35+17 d) 40+(-18)

40) $|-5| +$ ..... = 0

a) -5 b) 5 c) 1 d) 0

41) 3 - $|-3|$ = ...

a) 3 b) 6 c) 1 d) 0

42) If n is a negative integer which of the following is the greatest ?

a) 3n b) -3n c) $\frac{n}{3}$ d) $\frac{3}{n}$

43) If a + b =0 then a×b 0

a) < b) > c)=

44) $\frac{3}{4}$ + 50% = ...

a) 75% b) 150% c) $\frac{3}{2}$ d) $\frac{5}{4}$

45) If $\frac{2}{3} \times X = \frac{5}{7} \times \frac{2}{3}$, then X = ...

a) $\frac{3}{2}$ b) $\frac{2}{3}$ c) $\frac{5}{7}$ d) $\frac{7}{5}$

46) $0.\overline{7} \div \frac{1}{3}$ = ...

a) $\frac{3}{7}$ b) $\frac{7}{21}$ c) $\frac{7}{3}$ d) $\frac{21}{10}$

47) If (X – 1) is the multiplicative inverse of $\frac{1}{5}$, then X = ...

a) 4 b) 5 c) 6 d) $1\frac{1}{5}$

48) $\frac{3}{4}$ exceeds $\frac{3}{8}$ by the amount of = ...

a) $\frac{3}{8}$ b) $-\frac{3}{8}$ c) $\frac{9}{8}$ d) $-\frac{9}{8}$

49) If 3 times a number is 27 the $\frac{1}{3}$ of this number = ...

a) 3 b) $\frac{3}{2}$ c) $\frac{9}{4}$ d) 1

50) If $\frac{X}{Y} = \frac{2}{3}$, then $\frac{3X}{2Y}$ = ...

a) $\frac{3}{2}$ b) $\frac{1}{3}$ c) $\frac{9}{4}$ d) 1

51) If $\frac{|X|}{5} = 3$, then X = ...

a) 15 b) 5 c) 10 d) ± 15

Q2 Complete the following :-

1) $\frac{3}{5} = \frac{9}{15}$

2) $\frac{18}{12} = \frac{12}{8}$

3) $\frac{15}{X} = \frac{30}{12}$ x=6

4) 7 : 8 = 21 : 24

5) $\frac{m-3}{12} = \frac{5}{4}$ m=18

6) $\frac{16}{3X} = \frac{8}{12}$, x = 8

7) $\frac{1}{3} = \frac{2}{b+1}$, b = 5

8) $\frac{8}{y} = \frac{y}{2}$, y = 4

9) $\frac{14}{X} = \frac{y}{7}$, then xy = 98

10) If 2 , 7 , X , 21 are proportion then X = 6

11) The forth proportional to the numbers 7 , 21 , 9 is 27

12) If $\frac{K}{4}$ = 9 , then , the value of $\frac{1}{2}$ K – 7 = 11

13) Seif packed 100 cardboard boxes in 2.5 hours , it would take seif 4 hours to pack 160 boxes , working at the same rate.

14) If the scale drawing is > 1 , it represents magnification , but if the scale drawing is < 1 , it represents minimization.

15) If the scale drawing is 1 : 200 it represents minimization.

16) If the length the drawing is 5 cm , and the real length is 15 meters , then the scale drawing = 1 : 300

17) If the length of an insect in the picture is 4 cm , and its real length is 2 mm , then the scale drawing = 20 : 1

18) If the magnification ratio of an insect"s image 30 : 1 and the insect"s real length is $2\frac{1}{2}$ mm , then the length of the insect in the image in centimeters is 7.5 cm

19) If the scale on the map is 1 : 600,000 and the distance between two points on the map is 4.5 cm , then the real distance between the two points = 27 km

20) Malak drew a picture to her sister Farida , if the scale drawing is 1 : 4 and Farida"s height is 160 cm , then Farida"s height in the picture = 40 cm

21) If the actual length is 90 meters , and the scale is 1 : 10,000 then the length in the drawing in centimeters = 0.9 cm

22) The ratio between two numbers 2 : 5 , if the smaller number is 48 , then the larger number is 120

23) 120 LE. were divided between two persons in the ratio of 2 : 3 , then the share of the smaller one is 48

24) If the number of students in a school is 576 , and the ratio of girls to boys is 5 : 3 , then the increase of the number of girls than boys is 144

25) 360 LE. were distributed between Yara and Maria in the ratio of 7 : 5 , then the ratio of each one is 210 and 150

26) The ratio between the length of the sides in a triangle 3:4:5 , if its perimeter is 36 cm , then the length of the longest side is 15 cm

27) $-2 + (-5 + 5) = -2$

28) $0 + 7 = |-7|$

29) $-4 + 0 = -4$

30) $-7-(-8) = 1$

31) The additive identity in $\mathbb{Z}$ is 0

32) The additive inverse of -7 is 7

33) The additive inverse of 0 is 0

34) The result of subtracting -5 from 3 is 8

35) $-5 + 3 = 3 + (-5)$ (commutative property)

36) $0 + (-7) = -7$ (additive identity property)

37) $6 + (-6) = 0$ (additive inverse property)

38) $-a + a = 0$ (additive inverse property)

39) $1 \times -12 = -12$ (multiplicative identity property)

40) $(-5) \times 2 = 2 \times (-5)$ (commutative property)

41) $(-2 + 5) + 3 = -2 + (5 + 3)$ (Associative property)

42) The multiplicative identity in $\mathbb{Z}$ is 1

43) The product of two integers with different signs is a negative integer

44) $-7 \times 8 = -56$

45) If a = 3 and b = -2 , then the value of 3ab = -18

46) $A \times (B+C) = A \times C + A \times C$

47) If $a \times b = a$, then b = 1

48) If $a \div b = a$, then b = 1

49) If X = $|-4|$ and Y = -1 , then XY = -4

50) $\frac{7}{20} = 35\ \%$

51) $\frac{21}{1000} = 2.1\ \%$

52) $|-0.4| = 40\ \%$

53) $0.\overline{2} = \frac{2}{9}$ (in the form $\frac{a}{b}$)

54) $\frac{5}{8} = 0.625$ (in decimal form)

55) The additive inverse of $\frac{-6}{-11}$ is $-\frac{6}{11}$

56) The additive inverse of $\left|-\frac{3}{5}\right|$ is $-\frac{3}{5}$

57) The additive inverse of -2.3 is 2.3

58) The additive inverse of $(-2)^3$ is 8

59) The additive identity in $\mathbb{Q}$ is 0

60) $60\% + \frac{3}{10} - 0.14 = 0.76$

61) If $\frac{a}{b}$ is a rational number , then $b \neq 0$

62) The multiplicative identity in $\mathbb{Q}$ is 1

63) The multiplicative inverse of $\frac{3}{7}$ is $\frac{7}{3}$

64) The multiplicative inverse of $-\frac{4}{9}$ is $-\frac{9}{4}$

65) The multiplicative inverse of $-3\frac{1}{2}$ is $-\frac{2}{7}$

66) The multiplicative inverse of -3 is $-\frac{1}{3}$

67) The multiplicative inverse of 0.5 is $\frac{10}{5} = 2$

68) The multiplicative inverse of 1 is 1

69) The multiplicative inverse of -1 is -1

70) The multiplicative inverse of $\left|-\frac{3}{5}\right|$ is $\frac{5}{3}$

71) The multiplicative inverse of 60% is $\frac{5}{3}$

72) The rational number $\frac{a-1}{5}$ has a multiplicative inverse if $a \neq 1$

73) The rational number that does not have a multiplicative inverse is 0

74) The result of subtracting $\frac{1}{7}$ from $\frac{8}{7} = 1$

75) $1 \div \frac{4}{9} = \frac{9}{4} = 2\frac{1}{4}$

76) $-\frac{4}{7} \times 1 = -\frac{4}{7}$

77) $2\frac{3}{5} \times \frac{5}{13} = 1$

78) $4 \times -\frac{5}{4} = -5$

79) $\frac{1}{4} \times 25\% = \frac{1}{16}$

80) $-\frac{4}{9} \times -\frac{9}{4} = 1$

81) $\frac{5}{4} \times 0.8 = 1$

82) If $\{5, Y\} = \{7, X\}$, then X = 5 and Y = 7

83) If $X \in \{5, 3, 10\}$, X is a prime factor of 6 then X = 3

84) If $\{6, Y+2\} = \{3, X-2\}$, then X = 8 and Y = 1

85) If $A \subset B$, then $A \cap B = A$, $A \cup B = B$

86) If A = B , then $A \cap B$ = A or B , $A \cup B$ = A or B

87) $A \cap \emptyset = \emptyset$

88) $\emptyset \cup X = X$

89) $A \cap A = A$

90) If $X \cap Y = Y$, then $Y \subset X$

Q3 Answer the following :-

1) Seif bought 8 apples for 60 L.E. , how many apples of the same type can he buy for 105 L.E. ?

14 apples

2) $\frac{3}{4}$ liter of milk costs 24 pounds , how much would $1\frac{3}{4}$ liters cost ?

56 pounds

3) Yara reads 15 pages in 50 minutes , what is the time in hours that she will take to read a book of 180 pages if she reads at the same rate ?

600 min = 10 hours

4) A car uses 5 liters of petrol to cover a distance of 40 km , how much petrol would the car to cover the distance 128 km if it travel at the same rate ?

16 litres

5) A man wants to divide 8,000 LE. among his three sons in the ratio of 1 : 2 : 5 , find the ratio of each one .

1st	:	2nd	:	3rd	:	sum
1	:	2	:	5	:	8
.....	:	.....	:	.....	:	8000

Share of 1st $= \frac{1\times8000}{8} =$ 1000 LE

Share of 2nd $= \frac{2\times8000}{8} =$ 2000 LE

Share of 3rd $= \frac{5\times8000}{8} =$ 5000 LE

6) A sum of money was divided among three persons in the ratio of 4 : 2 : 1 , if the share of the first person exceeds the share of the third person by 900 LE , find the share of each one.

1st	:	2nd	:	3rd	:	different
4	:	2	:	1	:	3
.....	:	.....	:	.....	:	900

Note

the difference between 3rd and 1st = 4-1 = 3

Share of 1st $= \frac{4\times900}{3} = 1200$ LE

Share of 2nd $= \frac{2\times900}{3} = 600$ LE

Share of 3rd $= \frac{1\times900}{3} = 300$ LE

7) Seif earns twice as much as Marwan , if the sum of their wages is 36,000 LE. , what is the wage for each of them ?

Seif	:	Marwan	:	sum
2	:	1	:	3
.....	:	.....	:	36,000

Share of Seif $= \frac{2\times36,000}{3} = 24,000$ LE

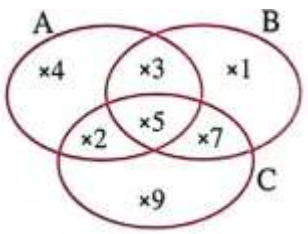
Share of Marwan $= \frac{1\times36,000}{3} = 12,000$ LE

8) A watch was offered with a discount rate is 25% off during a sale , if the price of the watch was 720 LE , what is the price of the watch after the discount ?

Price before	:	discount	:	price after
100%	:	25%	:	75%
720	:		:	.....

Price after $= \frac{720\times75}{100} = 540$ LE

9) From the opposite venn diagram , find



$A \cap B = \{3, 5\}$

$A \cap B \cap C = \{5\}$

$C \cup B = \{1, 2, 3, 5, 7, 9\}$

10) Use the properties of addition & multiplication to find :-

a) -5 + (-13) + 5

= -5 + 5 - 13 (commutative)
= (-5 + 5) - 13 (associative)
= 0 - 13 (add. inverse)
= - 13 (add. identity)

b) 25 + (-8) + (-25) +7

= 25 + (-25) + (-8) +7 (commutative)
=[25 + (−25)]+[(−8) + 7] (associative)
= 0 + (-1) (add. identity)
= - 1

c) (-2) × (-25) × (-50) × 4

= -2×-50×4×-25 (commutative)
= (-2×-50)×(4×-25) (associative)
= 100 × -100 = -10,000

d) 50 × (-45) × 2

50 × 2 × (-45) (commutative)
(50 × 2) × (-45) (associative)
100 × (-45) = -4,500

e) 3 × (-2) + 3 × 5 (distributive)

= 3 × (-2 + 5)
= 3 × 3 = 9

f) 15 × 99 (distributive)

= 15 × (100 - 1)
= (15 × 100) - (15 × 1)
= 1,500 - 15 = 1,485

g) 32 × 18 - 32 × 34 + 32 × 17 (distributive)

= 32 × (18 - 34 + 17)
= 32 × 1 = 32

h) -7 × 102 (distributive)

= -7 × (100 + 2)
= (-7 × 100) + (-7 × 2)
= -700 + (-14) = -714

i) $\frac{3}{4} + \frac{1}{2} + \frac{1}{4}$

$= \frac{3}{4} + \frac{1}{4} + \frac{1}{2}$ (commutative)

$= (\frac{3}{4} + \frac{1}{4}) + \frac{1}{2}$ (associative)

$= \frac{4}{4} + \frac{1}{2}$

$= 1 + \frac{1}{2} = 1\frac{1}{2}$

j) $\frac{-4}{10} + \frac{1}{4} + \frac{2}{10} + \frac{-1}{4}$

$= \frac{2}{7} + \frac{3}{4} + \frac{5}{7} + \frac{1}{4}$ (commutative)

$= (\frac{2}{7} + \frac{3}{4}) + (\frac{5}{7} + \frac{1}{4})$ (associative)

$= 1 + 1$

$= 2$

k) $\frac{5}{12} \times 3 + \frac{5}{12} \times 9$ (distributive)

$\frac{5}{12} \times (3 + 9)$

$\frac{5}{12} \times 12 = 5$

l) $-\frac{4}{9} \times 8 + 9 \times (\frac{-4}{9}) + \frac{-4}{9}$ (distributive)

$= -\frac{4}{9} \times (8 + 9 + 1)$

$= -\frac{4}{9} \times 18 = -8$

11) If a = 15 and b = -5 , find the result of the following :-

b) $|9 - a| = 6$

b) $a - b = 20$

c) $|3 - b| = 8$

d) $b - (-a) = 10$

12) If $a = 1\frac{3}{4}$, $b = \frac{12}{7}$ and $c = \frac{2}{3}$, find the numerical value of the following :-

a) abc + 3

$1\frac{3}{4} \times \frac{12}{7} \times \frac{2}{3} + 3 = 5$

b) ab - c

$1\frac{3}{4} \times \frac{12}{7} - \frac{2}{3} = 2\frac{1}{3}$

13) A rectangle has an area of $50\frac{3}{4}$ cm^2 and a length of $9\frac{2}{3}$ cm , calculate the width .

Width = $50\frac{3}{4} \div 9\frac{2}{3} = 5\frac{1}{4} cm$

14) Find the area of a triangle with a base length $\frac{1}{4} m$ and the corresponding height of $1\frac{1}{2} m$.

Area = $\frac{1}{2} \times \frac{1}{4} \times 1\frac{1}{2} = \frac{3}{16}$

Unit 2

Q1 Choose the correct answer :-

1) The constant term in the algebraic expression 2xy+3y-5 is ……
a) 5 b) 3y c) -5 d) 2xy

2) The number of algebraic terms in 45 a b c is ……
a) 1 b) 2 c) 3 d) 4

3) The like term to the term a^2 b in the algebraic expression $b^2a-3ab+7ba^2$ is ……
a) b^2a b) -3ab c) $7ba^2$ d) None

4) X + 5 > 6 is ……
a) algebraic expression b) equation c) inequality d) formula

5) The area of square = side × side is ……
a) algebraic expression b) equation c) inequality d) formula

6) a + a + a = ……
a) 3a b) 3 + a c) $3a^3$ d) a^3

7) 5x + (-3x) = ……
a) 8x b) 2x c) -2x d) -8x

8) Which of the following pairs of terms are like terms ?
a) 7x , 7 b) x^2 , y^2 c) 3a , 8a d) 2x , $-2x^2$

9) If a = 2b , b = 15 then the numerical value of expression a + 2b + 5 = ……
a) 40 b) 65 c) 35 d) 20

10) What is the algebraic expression equivalent to 2y + 5 – 4y – 6?

a) 2y + 1 b) -2y - 1 c) 2y -1 d) -2y + 1

11) What is the simplest form of 7b + 4a - 2 - 2b + 3a + 2 ?

a) 5b + a + 2 b) 5b + 7a c) 5b + a d) 9b + 7a + 4

12) Which of the following doesn't equal 4a ?

a) 4 + a b) 2a + 2a c) a + a + a + a d) a + 3a

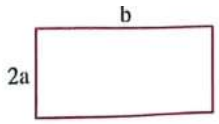
13) What is the mathematical formula of the area (A) of a parallelogram with base length (L) and corresponding height (h) ?

a) $A = \frac{1}{2} L\ h$ b) $A = \frac{L}{h}$ c) Lh d) L + h

14) What is the suitable equation to find the side length of an equilateral triangle whose perimeter 12 cm ?

a) x + 3 = 12 b) 3x = 12 c) x = 12 d) 2x = 12

15) What is the algebraic expression representing the perimeter of the following rectangle ?



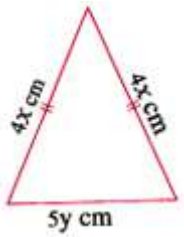
a) b + 2a b) a + 2b c) 4a + 2b d) 2ab

Q2 Complete the following :-

1) -3y+5y-6 in the simplest form is 2y-6
2) The result of subtracting 2b from 5b is 3b
3) The algebraic term that if added to -7m , the result will be -9m is -2m
4) The algebraic term that if subtracted from 8x , the result will be -4x is 12x
5) The algebraic term -3y exceeds the algebraic term 2y by -5y
6) The algebraic term 8k is less than the algebraic term -3k by -11k
7) -15x + 12x = -3x
8) -x + 2y – 8y + 5x + 7 = 4x – 6y + 7

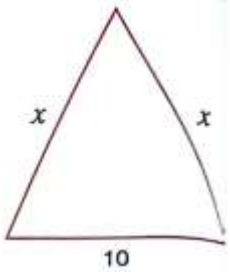
Q3 Answer the following :-

1) From the opposite figure



   a. Mathematical expression that represents the perimeter is
      4x + 4x + 5y
   b. simplest form 8x + 5y
   c. numerical value of the perimeter at y=2 x=3 is 34

2) The perimeter of the opposite triangle is 34 cm , then what is the value of x ? x + x + 10 = 34



   2x + 10 = 34
   2x = 24
   x = 12

Model 1

1) Choose the correct answer :-

1) If X=|-2|, y = −3, then Xy = _____

(a)-5 (b)5 (c) 6 (d)-6

2) Which of the following are two similar algebraic expressions?

(a) 2y , $-2y^2$ (b) y^2, x^2 (c) 2 y , −3 y (d) 5 , − 3 y

3) If the price of a pair of trousers increases from 400 pounds to 480 pounds, what is the rate of increase?

(a) 80% (b) 10 % (c) 15 % (d) 20 %

4) If three times a number is 18, then $\frac{1}{3}$ of this number is equal to _____

(a) 2 (b) 1 (c) $\frac{2}{3}$ (d) $\frac{4}{3}$

5) If the length in the drawing is 8 cm and the real length is 320 km. ,what is the scale drawing?

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

6) The ratio between the lengths of the sides of a triangle is 4: 5: 6. If the perimeter is 30 cm, what is the length of the smallest side?

(a) 4 cm (b) 8 cm (c) 12 cm (d) 10 cm

7) If $\frac{8}{x}$ = 0.5 , then X = ...

a) 8 b) 4 c) 16 d) 40

8) If A = { 8 , 9 , 6 } , B = { 2 , 6 , 7 } then which express A ∪ B ?

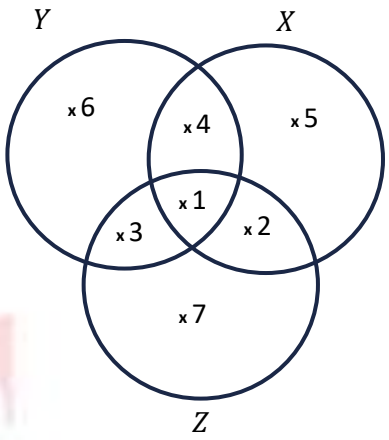
a) { 6 } b) {8,9} c) { 2,6,7,8,9} d) {2,7}

9) If a : b = 2 : 5 , and a = 14 then the value of b is .....

a) 7 b) 2 c) 10 d) 35

2) Answer the following :-

1) From the opposite Venn diagram, find :



a) X , Y , Z

b) $X \cap Y \cap Z$

c) $X \cap (Y \cup Z)$

2) Using the distribution property, find the value of :

$$\frac{6}{37} \times 7 + \frac{6}{37} \times 5 + \frac{6}{37} \times (-11)$$

3) What is the simplest form of -3y+5y-6 ?

4) Seif bought 8 apples for 60 L.E. , how many apples of the same type can he buy for 105 L.E. ?

5) Yara reads 15 pages in 50 minutes , what is the time in hours that she will take to read a book of 180 pages if she reads at the same rate ?

6) What is the suitable equation to find the side length of an equilateral triangle whose perimeter 12 cm ?

7) Find the result of subtracting 2b from 5b .

Model 2

1) Choose the correct answer :-

1) The expression $5\ a - 3\ b + 5\ b - 3\ a$ in the simplest form is _____

(a) $10\ a - 6\ b$ **(b)** $2a + 2\ b$ **(c)** $8a + 8\ b$ **(d)** $-8a + 2\ b$

2) Which of the following scale drawings represents a minimization ?

(a) 1 : 7000 **(b)** 70 : 1 **(c)** 7000: 1 **(d)** 500: 1

3) If A= {5,7}, what is the number of subsets of A?

(a) 2 **(b)** 4 **(c)** 6 **(d)** 8

4) If the price of a refrigerator is 12,000 pounds and a 15 % discount is applied, what is the price of the refrigerator in pounds after the discount?

(a) 1,800 **(b)** 10,200 **(c)** 11,885 **(d)** 10,000

5) $\frac{8}{X+4} = \frac{3}{9}$ what is the value of X?

(a) 8 **(b)** 9 **(c)** 10 **(d)** 20

6) The multiplicative inverse of the number $-2\frac{1}{3}$ is _____

(a) $-\frac{7}{3}$ **(b)** $\frac{7}{3}$ **(c)** $-\frac{3}{7}$ **(d)** $\frac{3}{7}$

7) If a + b = 0 then a×b 0

(a) $<$ **(b)** $>$ **(c)** =

8) $\frac{3}{4} + 50\% =$ .....

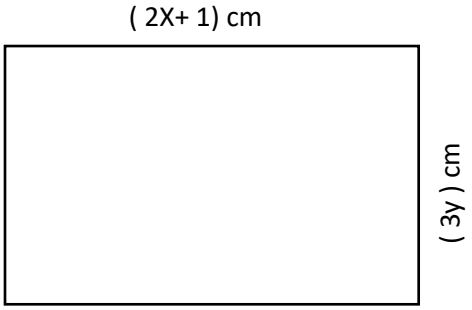
(a) 75% **(b)** 150% **(c)** $\frac{3}{2}$ **(d)** $\frac{5}{4}$

9) If $\frac{2}{3} \times X = \frac{5}{7} \times \frac{2}{3}$, then X = ...

(a) $\frac{3}{2}$ **(b)** $\frac{2}{3}$ **(c)** $\frac{5}{7}$ **(d)** $\frac{7}{5}$

2) Answer the following :-

1) Find the mathematical expression that represents the perimeter of the given rectangle in its simplest form then find the numerical value of the perimeter when X = 4 and y = 2 cm.



2) Omar, Younes, and Anas participated in a business project. Omar paid 450,000 LE, Younes paid 250,000 LE, and Anas paid 300,000 LE. At the end of the year, the net profit was 80,000 LE. Calculate each person's share of the profits

3) Use the properties of addition & multiplication to find :-

-5 + (-13) + 5

4) Using the distribution property, find the value of :

$\frac{5}{12} \times 3 + \frac{5}{12} \times 9$

5) The algebraic term -3y exceeds the algebraic term 2y by ……

6) What is the constant in the algebraic expression 2xy+3y-5 is ?

7) If A ⊂ B , then A ∩ B = …… , A ∪ B = ……

Answers

Model 1

1) Choose the correct answer :-

1) If X=|-2|, y = −3, then Xy = _____

(a)-5 (b)5 (c) 6 (d)-6

2) Which of the following are two similar algebraic expressions?

(a) 2y , −2 y^2 (b) y^2, x^2 (c) 2 y , −3 y (d) 5 , − 3 y

3) If the price of a pair of trousers increases from 400 pounds to 480 pounds, what is the rate of increase?

(a) 80% (b) 10 % (c) 15 % (d) 20 %

4) If three times a number is 18, then $\frac{1}{3}$ of this number is equal to _____

(a) 2 (b) 1 (c) $\frac{2}{3}$ (d) $\frac{4}{3}$

5) If the length in the drawing is 8 cm and the real length is 320 km. ,what is the scale drawing?

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

6) The ratio between the lengths of the sides of a triangle is 4 : 5 : 6 If the perimeter is 30 cm, what is the length of the smallest side?

(a) 4 cm (b) 8 cm (c) 12 cm (d) 10 cm

7) If $\frac{8}{x}$ = 0.5 , then X = ...

a) 8 b) 4 c) 16 d) 40

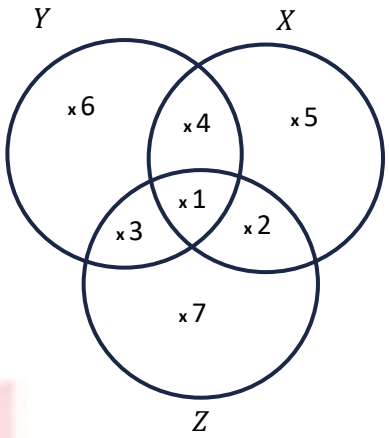
8) If A = { 8 , 9 , 6 } , B = { 2 , 6 , 7 } then which express A ∪ B ?

a) { 6 } b) {8,9} c) { 2,6,7,8,9} d) {2,7}

9) If a : b = 2 : 5 , and a = 14 then the value of b is .....

a) 7 b) 2 c) 10 d) 35

2) Answer the following :-



1) From the opposite Venn diagram, find :

a) X , Y , Z

X = {1,2,4,5} Y = {1,3,4,6} Z= {1,2,3,7}

b) $X \cap Y \cap Z$ = {1}

c) $X \cap (Y \cup Z)$ = {1,2,4}

2) Using the distribution property, find the value of :

$$\frac{6}{37} \times 7 + \frac{6}{37} \times 5 + \frac{6}{37} \times (-11)$$

$= \frac{6}{37} \times (7 + 5 + (-11))$

$= \frac{6}{37} \times 1 = \frac{6}{37}$

3) What is the simplest form of -3y+5y-6 ? 2y - 6

4) Seif bought 8 apples for 60 L.E. , how many apples of the same type can he buy for 105 L.E. ? 14 apples

5) Yara reads 15 pages in 50 minutes , what is the time in hours that she will take to read a book of 180 pages if she reads at the same rate ? 600 min = 10 hours

6) What is the suitable equation to find the side length of an equilateral triangle whose perimeter 12 cm ? 3x=12

7) Find the result of subtracting 2b from 5b . 5b – 2b = 3b

Model 2

1) Choose the correct answer :-

1) The expression $5\ a - 3\ b + 5\ b - 3\ a$ in the simplest form is _____

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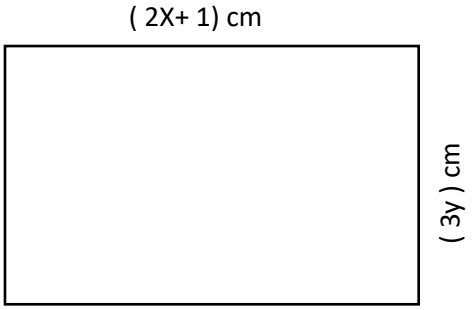

The expression is $2 \times (2x + 1 + 3y)$

$= 4x + 6y + 2$

Numerical value $= 4 \times 4 + 6 \times 2 + 2 = 30$

2) Omar, Younes, and Anas participated in a business project. Omar paid 450,000 LE, Younes paid 250,000 LE, and Anas paid 300,000 LE. At the end of the year, the net profit was 80,000 LE. Calculate each person's share of the profits

Omar	:	Younes	:	Anas	:	profit
450,000	:	250,000	:	300,000	:	1,000,000
?		?		?		80,000

Share of Omar $= \frac{450,000 \times 80,000}{1,000,000} = 36,000$ LE

Share of Younes $= \frac{250,000 \times 80,000}{1,000,000} = 20,000$ LE

Share of Anas $= \frac{300,000 \times 80,000}{1,000,000} = 24,000$ LE

3) Use the properties of addition & multiplication to find :-

$-5 + (-13) + 5$

$-5 + 5 + (-13)$ (commutative property)

$(-5 + 5) + (-13)$ (associative property)

$0 - 13 = -13$

4) Using the distribution property, find the value of :

$\frac{5}{12} \times 3 + \frac{5}{12} \times 9$

$\frac{5}{12} \times (3 + 9)$

$\frac{5}{12} \times 12 = 5$

5) The algebraic term -3y exceeds the algebraic term 2y by -5y

6) What is the constant in the algebraic expression 2xy+3y-5 is ? -5

7) If $A \subset B$, then $A \cap B = A$, $A \cup B = B$