GRADE 6

REVISION

End of Year

2018-2019

PART C. Mock Exam I

Part I. Choose the correct answer.

1) Evaluate $|-8|$

a) -8 b) 0

c) 8 d) 5

2) Simplify $|-12| + |20|$.

a) 32 b) 8

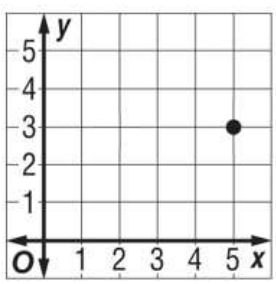
c) -32 d) -8

3) Which set of integers is graphed on the number line?

a) {−3, 7, 1, −2} b) {7, −1, 2, −3}

c) {−3, 1, 2, −7} d) {−2, 3, 1, 7}

4) Which ordered pair represents the point on the coordinate plane?



a) (5, 3) b) (3, 5)

c) (4, 3) d) (5, 5)

5) Which situation does the integer 5 best represent?

a) 5 degrees below zero b) 5 degrees above zero

c) 5 steps down d) losing AED 5

6) The volume of a cube can be found using the expression 5^3. What is 5^3 written as a product of the same factor?

a) $5 \times 5 \times 5$ b) 5×3

c) $3 \times 3 \times 3 \times 3 \times 3$ d) 3×5

7) What is the value of $5^2 + 3$?

a) 13
b) 28
c) 8
d) 25

8) Simplify $16 - 2 \times 4 + 1$.

a) 8
b) 56
c) 57
d) 9

9) What is the value of ab if $a = 6$ and $b = 8$?

a) 14
b) 84
c) 48
d) 42

10) What is the value of $5 + 2m$ if $m = \frac{3}{8}$?

a) $7\frac{1}{4}$
b) $7\frac{3}{8}$
c) $5\frac{3}{4}$
d) $5\frac{3}{8}$

11) Write an algebraic expression for the following verbal expression: 14 more pencils than the first pencil case.

a) $14p$
b) $14 - p$
c) $p + 14$
d) $14 \div p$

12) Which property is illustrated by the statement $2(5) = 5(2)$?

a) Associative
b) Distributive
c) Commutative
d) Identity

13) Which of the following is equivalent to $5 \cdot (8 \cdot 3)$?

a) 43
b) $5 \cdot (5 \cdot 4)$
c) $(5 \cdot 8) \cdot 3$
d) $5 + (8 + 3)$

14) Use the Distributive Property to rewrite $7(x + 4)$.

a) $7x + 21$
b) $28x$
c) $7x + 28$
d) $x + 28$

15) Simplify $6x + 9 + 3x$.

a) $18x + 9$
b) $9x$
c) $9x + 9$
d) $18x$

16) Write an expression equivalent to $4(3x + 2y)$

a) $12x + 8y$
b) $20xy$
c) $20x$
d) $12x + 8$

17) What is the factored form of $14x + 28y$?

a) $7(2x + 3y)$
b) $2x + 4y$
c) $7(2x + 4y)$
d) $7xy(2 + 4)$

18) Solve. $4 + m = 14$.

a) 11
b) 10
c) 26
d) 28

19) Solve. $a - 12 = 3$.

a) 15
b) 14
c) 9
d) 4

20) Solve. $6x = 60$.

a) 30
b) 54
c) 10
d) 66

21) Solve. $\frac{d}{4} = 7$

a) 3
b) 28
c) 11
d) 21

22) What is the rule to find the value of the missing term in the table?

Position	1	2	3	4	n
Value of Term	5	10	15	20	

a) $n + 1$
b) $5n$
c) $n + 4$
d) $4n + 1$

23) Which of the following is a solution of the inequality $5x \geq 15$?

a) 0
b) 1
c) 3
d) 4

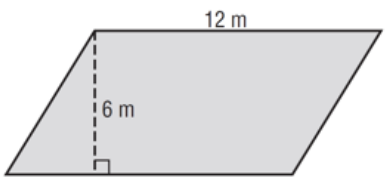
24) Solve the inequality $x - 3 \leq 7$.

a) $x \leq 4$
b) $x \geq 10$
c) $x \geq 4$
d) $x \leq 10$

25) Solve the inequality $5b < 30$

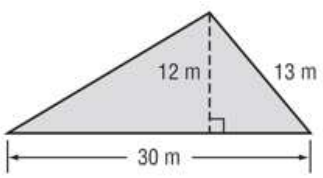
a) $b > 35$
b) $b < 35$
c) $b < 6$
d) $b > 6$

26) Find the area of the parallelogram.



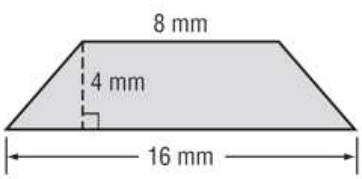
a) 72 m^2
b) 6 m^2
c) 36 m^2
d) 18 m^2

27) What is the area of the triangle?



a) 180 m^2
b) 225 m^2
c) 360 m^2
d) 450 m^2

28) What is the area of the given trapezoid?

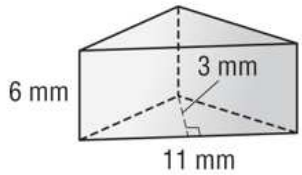


a) 270 mm^2
b) 48 mm^2
c) 96 mm^2
d) 24 mm^2

29) The regular octagon shown is enlarged so that its sides are 4 times as large. What effect does this have on the area?

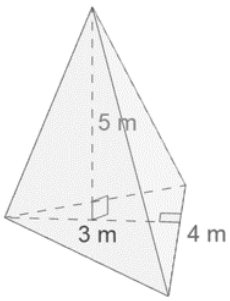
a) The area is 2 times greater.
b) The area is 4 times greater.
c) The area is 16 times greater.
d) The area stays the same.

30) Find the volume of the triangular prism.



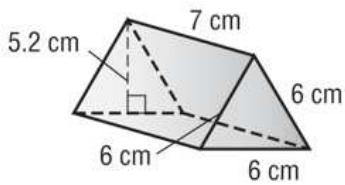
a) 198 mm^3
b) 99 mm^3
c) 231 mm^3
d) 33 mm^3

31) Find the volume of the triangular pyramid.



a) 60 m^3
b) 10 m^3
c) 30 m^3
d) 40 m^3

32) Find the surface area of the given prism. Round to the nearest tenth if necessary.



a) 109.2 cm^2
b) 188.4 cm^2
c) 157.2 cm^2
d) 218.4 cm^2

33) What is the mean absolute deviation of the data: 20,5,12,15,16,10?

a) 13
b) 4
c) 10
d) 2.8

34) Which measure of center best represents the set of data: 14, 16, 11, 17, 12, 15, 13, 10, 18, 48

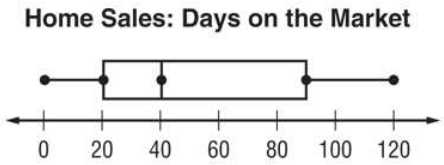
a) mean
b) mode
c) median
d) range

35) Which of the following is an appropriate display to show the heights of adults arranged by intervals?

a) bar graph
b) line graph
c) circle graph
d) histogram

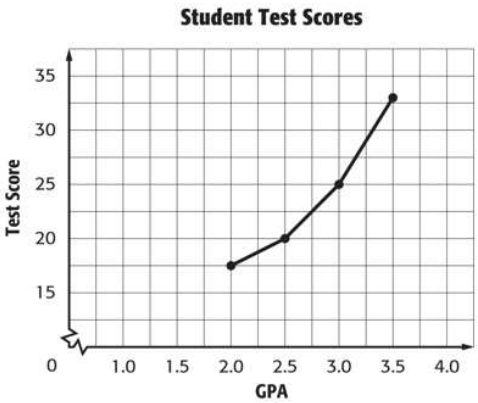
36) The box plot shows the number of days on the market for single family homes in a city. What percent of the homes were on the market less than 90 days?

a) 0%
b) 50%
c) 25%
d) 75%



37) The graph shows test scores of students with various grade point averages. What is the best prediction of a student with a grade point average of 3.25?

a) 34
b) 29
c) 32
d) 25



Part II. Answer the following questions. Show your work.

38) Order from least to greatest.

a) –6, 2, 0, –3. **-6, -3, 0, 2**

b) $-4.08, 4\frac{1}{5}, -4\frac{1}{4}, 4.\overline{3}$ **-4 1/4, -4.08, 4 1/5, 4.3**

39) Admission to the amusement park is AED 50. It costs an additional AED 5 for each ride.

Write and solve an equation to find the number of ride if the total cost is AED 100.

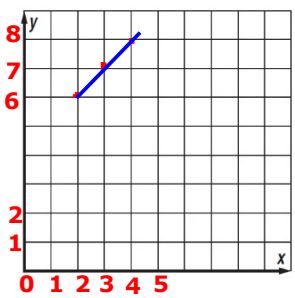
5r + 50 = 100
5r = 50
r = 10

40) Given the equation $y = x + 4$.

a) Complete the function table.

Input (x)	$x + 4$	Output (y)
2	**2 + 4**	**6**
3	**3 + 4**	**7**
4	**4 + 4**	**8**

b) Graph the equation.

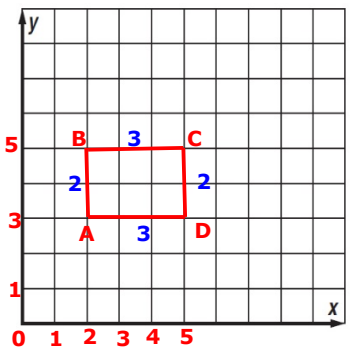


41) Ahmed earns AED 35 for every car he washes.

a) Write an equation to find y, the total amount Ahmed will earn after washing x cars. **y = 35x**

b) How much will Ahmed earn if he washes 7 cars? **y = 35 (7)**
y = 245
Ahmed will earn 245 AED if he washes 7 cars.

42) A rectangle has vertices $A(2, 3)$, $B(2, 5)$, $C(5, 5)$, and $D(5, 3)$.

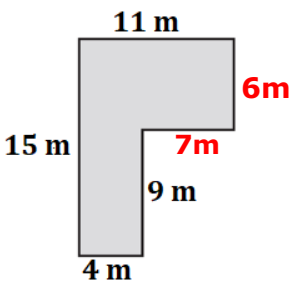


a) What is the length of each side of the rectangle?

b) What is the perimeter of the rectangle?

P = 2L + 2W
P = 2(3) + 2(2)
P = 6 + 4
P = 10

43) The figure at the right that shows the dimensions of a basement floor.



a) What is the perimeter of the basement floor?

P = 11+15+4+9+7+6
P = 52

b) What is the area of the basement floor?

A = (11x6) + (9x4)
A = 66 + 36
A = 102 m^2

44) A pyramid has all sides that are equilateral triangles. Each triangle has side lengths of 9 centimeters. If the surface area of the pyramid is 140.4 square centimeters, what is the slant height of the pyramid?

SA of 1 triangle: 140.4 / 4 = 35.1 cm
slant height is the height of the equilateral triangle.
slant height = h
Area of triangle = $\frac{b \times h}{2}$ → 35.1 = 9 x h/2
70.2 = 9h → h = 7.8 cm

45) Use the following set of data: 5, 7, 7, 6, 4, 8, 27, 5, 7, 5, 6, and 5.

a) Find the third and first quartiles of the data.

Q1 = 5 Q3 = 7

b) Find the interquartile range of the data.

IQR = 7 - 5
IQR = 2

c) Are there any outliers in the data set? Explain.

IQR X 1.5
2 X 1.5 = 3

Q1 - 3 = 2
Q3 + 3 =10

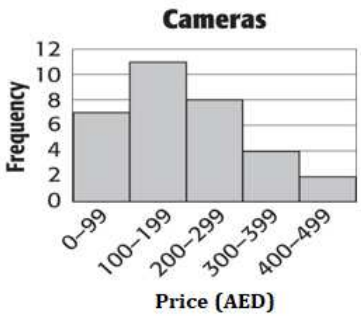
The outlier should be less than 2 and greater than 10.
So, the only outlier here is 27.

46) Draw a box plot for the data: 16, 16, 17, 19, 20, 23, 24, 25, 29, 31, 33, 38

47) Refer to the histogram.

a) How many cameras cost less than AED100?
7 cameras

b) Which price range has the least frequency?
400-499



PART D. Mock Exam II

Part I. Choose the correct answer.

1) Write $-\frac{4}{5}$ as a decimal.

a) −4.5
b) −0.8
c) 0.8
d) $-4.\overline{5}$

2) Simplify |12 + 6|.

a) −18
b) 6
c) 18
d) −6

3) What is the opposite of 15?

a) 15
b) |15|
c) −15
d) $\frac{1}{15}$

4) Which quadrant contains the point named by (–2, –3)?

a) Quadrant I
b) Quadrant III
c) Quadrant II
d) Quadrant IV

5) Which of the following points is located in Quadrant II?

a) (1, 4)
b) (−2, −4)
c) (3, −2)
d) (−1, 5)

6) Which number is less than −5?

a) 0
b) −10
c) −5
d) 5

7) What is 2 × 2 × 2 × 2 written using an exponent?

a) 4^2
b) 2^4
c) 16
d) 2 × 4

8) Simplify $25 + 3^2 - 5$.

a) 26
b) 29
c) 27
d) 23

9) Simplify 4 × 5 + 7 × 8.

a) 168
b) 84
c) 76
d) 59

10) What is the value of $7 + 3x$ if $x = \frac{1}{6}$?

a) $7\frac{1}{6}$
b) $7\frac{1}{2}$
c) $8\frac{1}{2}$
d) $8\frac{1}{6}$

11) What is the value of $19 - p + q$ if $p = 11$, and $q = 10$?

a) 19
b) 24
c) 28
d) 18

12) Write an algebraic expression for the following verbal expression: 8 centimeters shorter than Salma.

a) $s - 8$
b) $8 - s$
c) $8 + s$
d) $s \div 8$

13) Which property is illustrated by the statement 5(1) = 5?

a) Associative
b) Distributive
c) Commutative
d) Identity

14) Which of the following is the factored form of the expression $20 + 15$?

a) $5(2 + 3)$
b) $5(4 + 3)$
c) $5(4 + 5)$
d) $(4 + 3)$

15) Use the Distributive Property to rewrite $3(5 + x)$

a) $18x$
b) $15 + x$
c) $15 + 3x$
d) $5 + 3x$

16) Simplify $5x + 2 + 7x$.

a) $12x + 2$
b) $14x + 2$
c) $12x$
d) $14x$

17) Write an expression equivalent to $5(3a + 4b)$

a) $15a + 20b$
b) $35a$
c) $35ab$
d) $15a + 20$

18) What is the factored form of $32x + 40y$?

a) $16(2x + 3y)$
b) $8(4x + 5y)$
c) $8xy(4 + 5)$
d) $(4x + 5y)$

19) Solve. $5d = 35$.

a) 5
b) 30
c) 7
d) 40

20) Solve. $42 = 6 + m$.

a) 7
b) 36
c) 8
d) 48

21) Solve. $9 = x - 7$.

a) 16
b) 56
c) 2
d) 63

22) Solve. $\frac{a}{2} = 20$.

a) 22
b) 10
c) 18
d) 40

23) What is the rule to find the value of the missing term in the table?

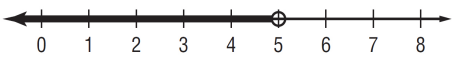
Position	1	2	3	4	n
Value of Term	4	5	6	7	

a) $n + 2$
b) $3n$
c) $n + 3$
d) $\frac{3}{n}$

24) Which inequality is graphed?

a) $x \leq 13$
b) $x \geq 13$
c) $x < 13$
d) $x > 13$

25) Which of the following inequalities has the solution shown below?



a) $5n \geq 25$
b) $5n > 25$
c) $5n \leq 25$
d) $5n < 25$

26) Solve the inequality $x + 3 \leq 7$.

a) $x \leq 4$
b) $x \geq 10$
c) $x \geq 4$
d) $x \leq 10$

27) Solve the inequality $\frac{y}{3} > 9$

a) $y > 3$
b) $y > 27$
c) $y < 3$
d) $y < 27$

28) What is the height of a parallelogram with base 5 meters and an area of 150 square meters?

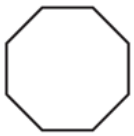
a) 30 m
b) 50 m
c) 750 m
d) 100 m

29) Aisha is designing a triangular-shaped cardboard with a height of 15 centimeters and an area of 135 square centimeters. What is the length of the base of the cardboard?

a) 9 cm
b) 120 cm
c) 18 cm
d) 2,025 cm

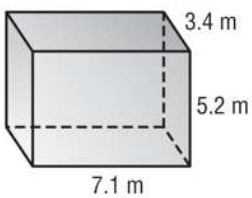
30) The regular octagon shown is enlarged so that its sides are 4 times as large. What effect does this have on the perimeter?

a) The perimeter is 2 times greater.
b) The perimeter is 4 times greater.
c) The perimeter is 16 times greater.
d) The perimeter stays the same.



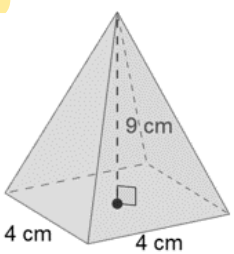
31) Find the volume of the rectangular prism. Round to the nearest tenth if necessary.

a) 251.1 m^3
b) 125.5 m^3
c) 214 m^3
d) 25 m^3



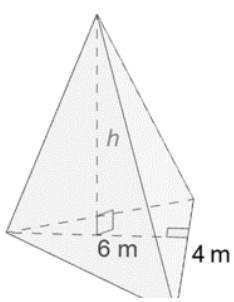
32) Find the volume of the square pyramid.

a) 24 cm^3
b) 144 cm^3
c) 230 cm^3
d) 48 cm^3



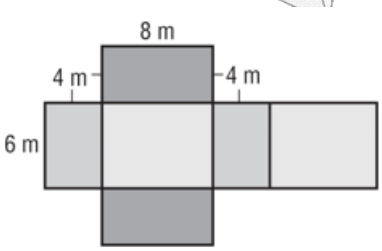
33) Find the height of the triangular pyramid if its volume is 40 m^3.

a) 6 m
b) 10 m
c) 3 m
d) 40 m



34) Find the surface area of the solid with the given net.

a) 768 m^2
b) 192 m^2
c) 208 m^2
d) 104 m^2



35) The table shows the prices of pens in a store. What is the median price for the pens?

Price of Pens (AED)					
40	37	25	35	29	43
34	26	39	43	51	47
35	27	45	28	50	43

a) AED 38
b) AED 43
c) AED 25
d) AED 29

36) What is the mean of the data shown in the table?

38	50	32	42
50	32	10	50

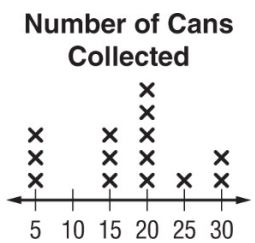
a) 38
b) 42
c) 40
d) 50

37) Which of the following is an appropriate display to show the average price of a car over the last 10 years?

a) bar graph
b) line graph
c) circle graph
d) histogram

38) The line plot below shows the number of cans collected by the student council. Which of the following describes the data?

a) symmetric
b) peak at 15
c) not symmetric
d) cluster at 10



Part II. Answer the following questions. Show your work.

39) Compare. Use <, or >.

a) 5.5 and $\frac{17}{3}$ **5.5 < 17/3**

b) -3.5 and $-\frac{13}{4}$ **-3.5 < -13/4**

40) Four friends bought tickets to the school play. It cost them a total of AED 84. Write and solve an equation to find the cost of each ticket.

4T = 84
T = 21

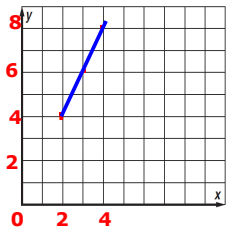
Each ticket costs 21 AED

41) Given the equation y = 2*x*.

a) Complete the function table.

Input (*x*)	2*x*	Output (*y*)
2	2(2)	4
3	2(3)	6
4	2(4)	8

b) Graph the equation.



42) A gym charges AED 50 registration fee plus an additional AED 70 for each month that you attend.

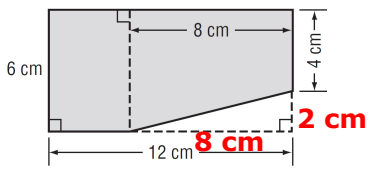
a) Write an equation that could be used to find the total cost *y* for someone to attend the gym for any number of months *x*. **y = 70x + 50**

b) How much will you pay if you attend 7 months?

y = 70x + 50
y = 70(7) + 50
y = 540

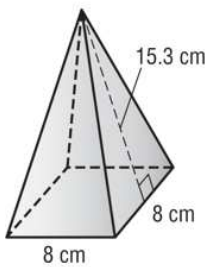
I will pay 540 AED if I attend the gym for 7 months.

43) Find the area of the figure at the right.



Area of Rec. = 6 x 12
= 72 cm^2
Area of Tria. = 1/2 (8 x 2)
= 8 cm^2
Area of Figure = 72 - 8
= 64 cm^2

44) Find the surface area of the given square pyramid.

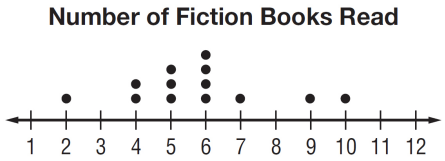


1 square: Area of square = 8 x 8
= 64 cm^2

4 triangles: Area of triangle = 1/2 (8 x 15.3)]
= 1/2 (122.4)
= 61.2 cm^2
Area of 4 triangles = 4(61.2)
=244.8 cm^2

Surface Area of the square pyramid = 64 + 244.8
= 308.8 cm^2 or 309 cm^2

45) Use the dot plot below.



a) What is the mean of the data? Round to the nearest tenth.

Mean = 5.8

b) What is the mode of the data?

Mode = 6

c) What is the median of the data?

Median = 6

46) The table shows the number of hours Mahra spent sleeping each night for 12 nights.

a) What is the mean of the data? Round to the nearest tenth.

Mean = 7.7

Hours Spent Sleeping			
8	6	7	7
10	8	8	10
8	8	5	7

b) What is the mode of the data?

Mode = 8

47) Make a line plot of the data.

Number of Pets					
0	6	1	2	0	1
2	0	5	2	1	2
1	1	4	1	1	2