EMG Education

Math Second Semester Review Pack 2020 (Answers)

A) Graphs and Linear Equations

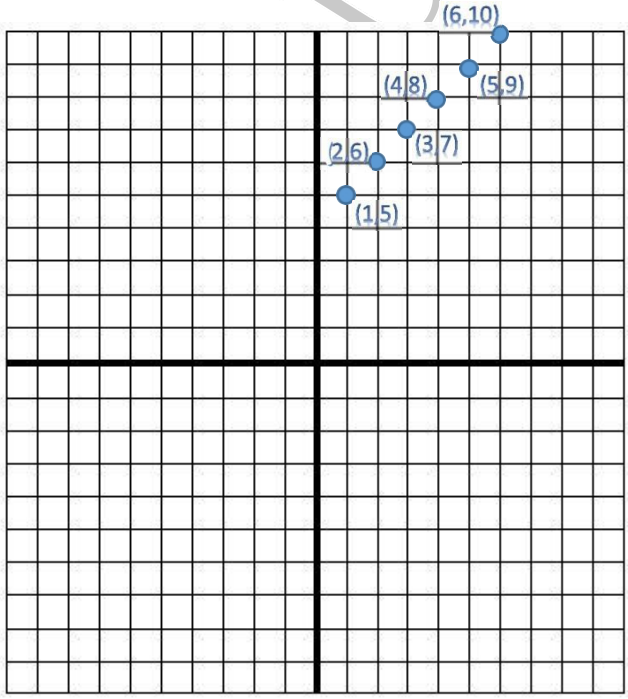
A.1) Create a table (**y = x + 4**)

X	1	2	3	4	5	6
Y	5	6	7	8	9	10

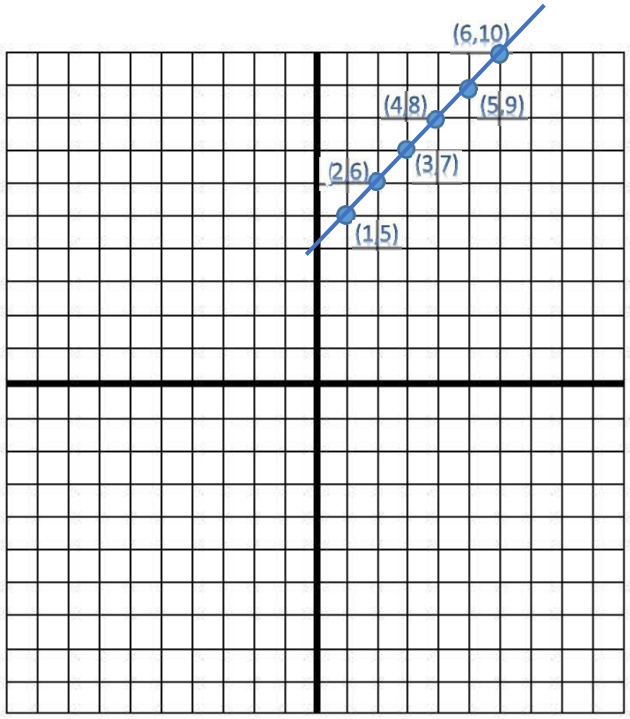
A.1) List 6 Coordinate Pairs:

(1,5) (2,6) (3,7) (4,8) (5,9) (6,10)

A.1) Graph the coordinate points:



A.1) Sketch the line of best fit on the graph below:



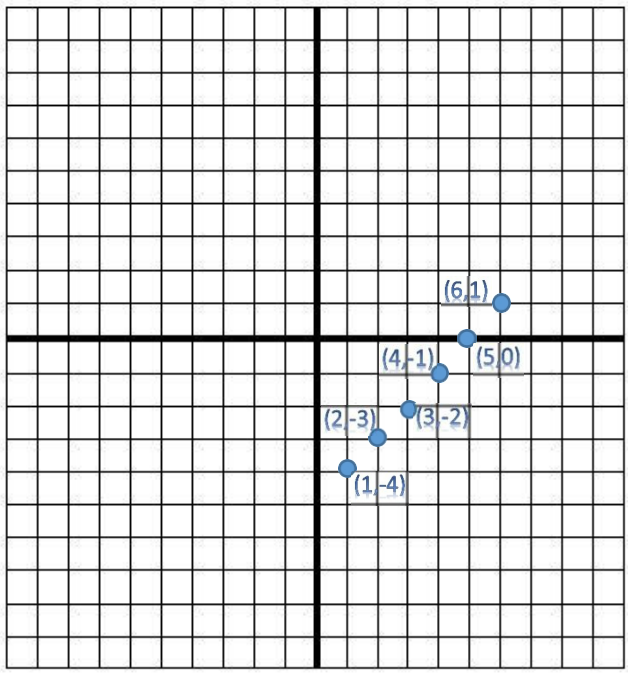
A.2) Create a linear equation:

X	6	5	4	3	2	1
Y	1	0	-1	-2	-3	-4

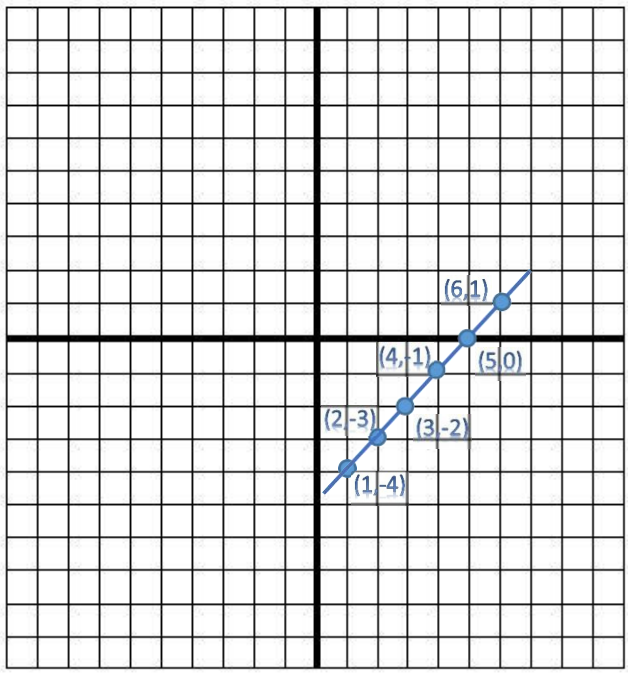
Linear Equation: y = x - 5

List 6 coordinate points: (6,1) (5,0) (4,-1) (3,-2) (2,-3) (1,-4)

A.2) Graph the coordinates points:

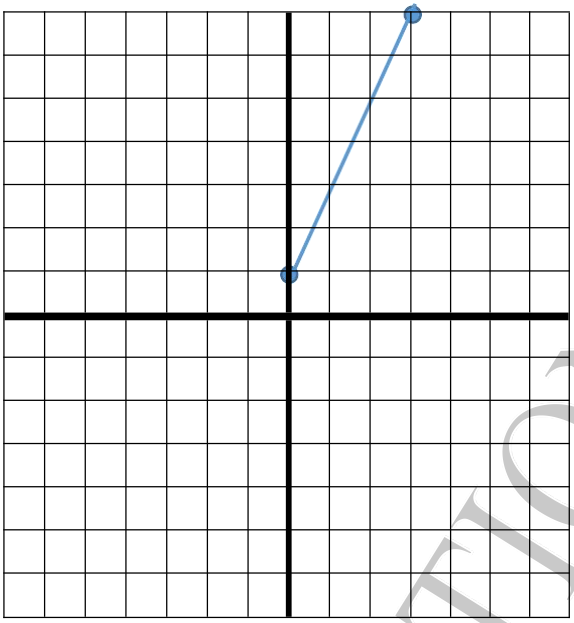


A.2) Sketch the line of best on the graph below:



A.3a) Identify the endpoints and plot the midpoint:

A	(3,7)
B	(0,1)
M	(1.5, 4)



A.3b) Using the given endpoints, find the midpoint and gradient:

Point A (0,-3)

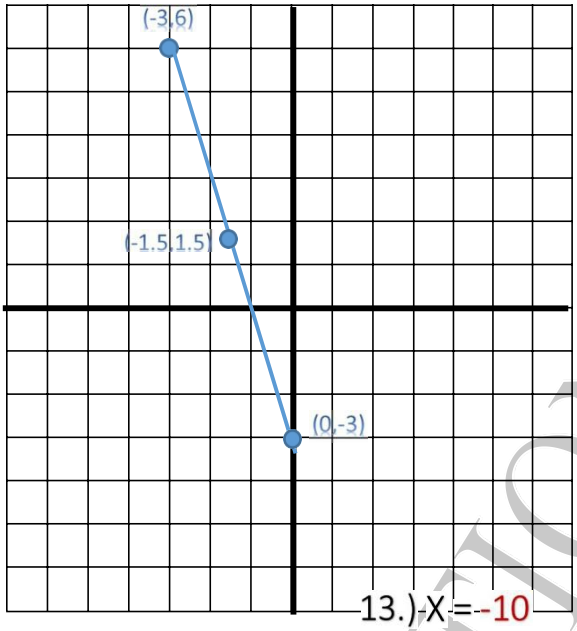
Point B (-3,6)

Midpoint: (-1.5,1.5)

Gradient: $\frac{6-(-3)}{-3-0} \Rightarrow \frac{9}{-3} \Rightarrow -3$

On the corresponding graph below plot all data from (3.B):

3.)



6.) X = 89

7.) X = 106

13.) X = -10

14.) X = 38

C) Angles, Quadrilaterals and Congruent Shapes:

C.1) Find the missing value of angle

1.) X = 34

2.) X = 18

X = 10

4.) X = 20

5.) X = 139

8.) X = -49

9.) X = 10

10.) X = 1

11.) X = 8

12.) X = 3

C.2) Solve for X in the following quadrilaterals. **Show your work**:

1.) X = 15

2.) X = -9

3.) X = 32

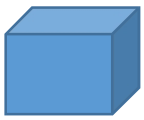
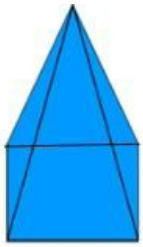
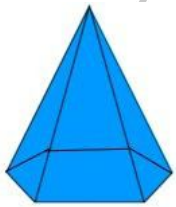
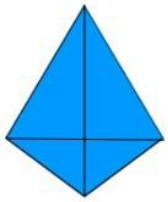
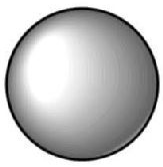
4.) X = 29

5.) X = 8

6.) X = $\frac{115}{8}$ or 14.375

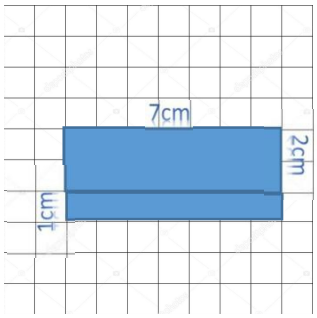
D) Geometry: 3-d Shapes, Plans and Elevations

D.1)

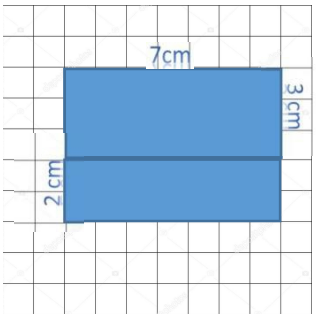
3-D Shape Name	Sketch	Faces	Edges	Vertices
Cube		6	12	8
Rectangular Prism		5	8	5
Hexagonal Prism		7	12	7
Triangular Based Pyramid		4	6	4
Sphere		0	0	0

D.2) Given the shape, draw the plan, front and side elevation.

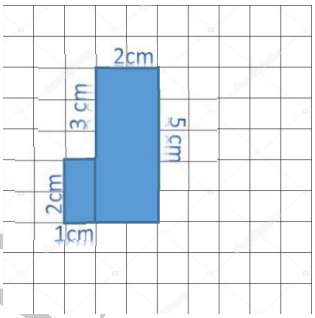
Plan



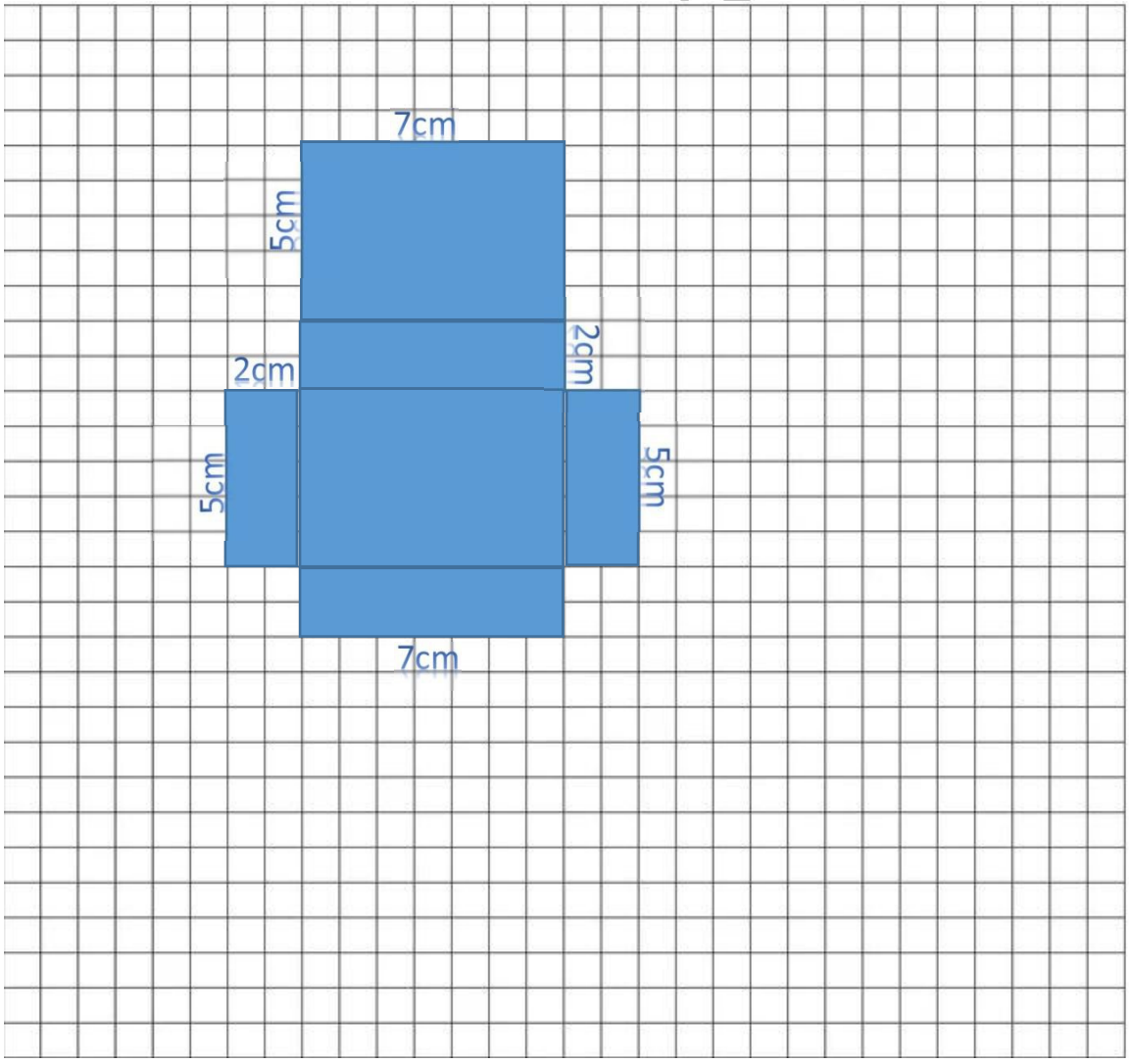
Front



Side



D.3) Draw the net of **only** the 2cm*7cm*5cm cuboid shown above.



E) Geometry: Circles

E.1) Find the area and circumference of the following circles:

1.) Area = 531.34 ft^2 Circumference = 81.71 ft

2.) Area = 452.57 in^2 Circumference = 75.43 in

3.) Area = 113.14 yd^2 Circumference = 37.71 yd

E.2) Find the perimeter of the following regualar polygons:

1.) 48 in

2.) 56 yd

3.) 72 ft

4.) 318 ft

5.) 80 yd

6.) 475 in

E.3) Find the perimeter of the following irregualar polygons:

7.) 51 in

8.) 60 yd

9.) 63 ft

10.) 337 ft

11.) 98 in

12.) 269 yd

E.4) Find the area of the following polygons:

1.) Area = 1681 in^2

2.) Area = 945 ft^2

3.) Area = 70 in^2

4.) Area = 1792 yd^2

5.) Area = 196 ft^2

6.) Area = 2046 yd^2

E.5) Find the area of the following compound shapes:

1.) Area = 390 ft^2

2.) Area = 63.86 yd^2

3.) Area = 96 in^2

4.) Area = 69.82 in^2

5.) Area = 320 in^2

6.) Area = 69 ft^2

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