Graphs and Linear Equations

EMG Homework Packet

Graphs and Linear Equations

A) Vocabulary activity - Fill in the gaps with the correct missing word

Origin: The point where the_____and_____meet (0,0).

Quadrant: One of four sections of a graph. Quadrants are numbered from the top right, going

_____.

X-axis: The horizontal axis that goes from left to right. Numbers on the left side of the origin (0,0)

will have_____x coordinates.

Y-axis: The_____axis that goes from top to bottom. Numbers above the origin (0,0) will

have positive y coordinates.

Ordered Pair: A pair of_____(x, y) which refers to a specific point on a graph.

B) Using the linear equations provided:

    I.   Create a six-point data table
   II.   List six ordered pairs (or pairs of coordinates).
  III.   Graph the points on a coordinate plane.
  IV.   Sketch the line of best fit.
   V.   Using the endpoints calculate the gradient of the line.
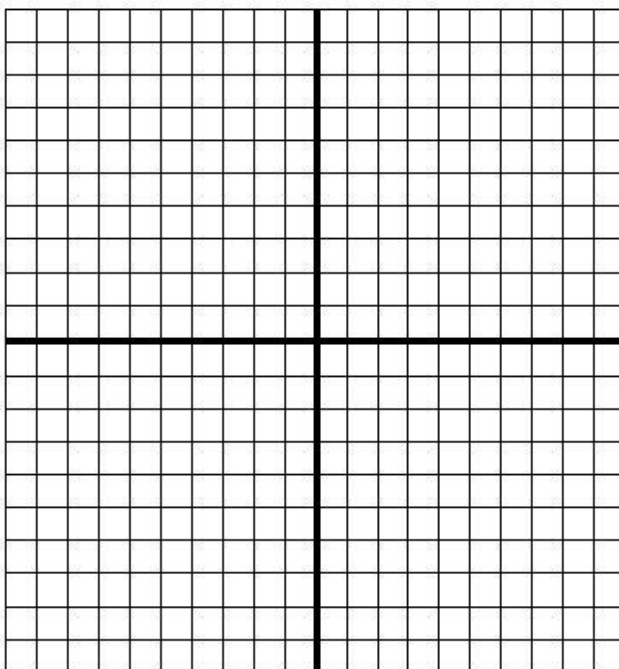 VI.   Using the endpoints, identify the midpoint.

1. y = x + 4

I. Create a table.

x						
y						

II. List six coordinate pairs.

_____

III. Graph the points on the coordinate plane below.

IV. Sketch the line of best fit on the graph above.

V. Calculate the gradient of the line.
Gradient = _____

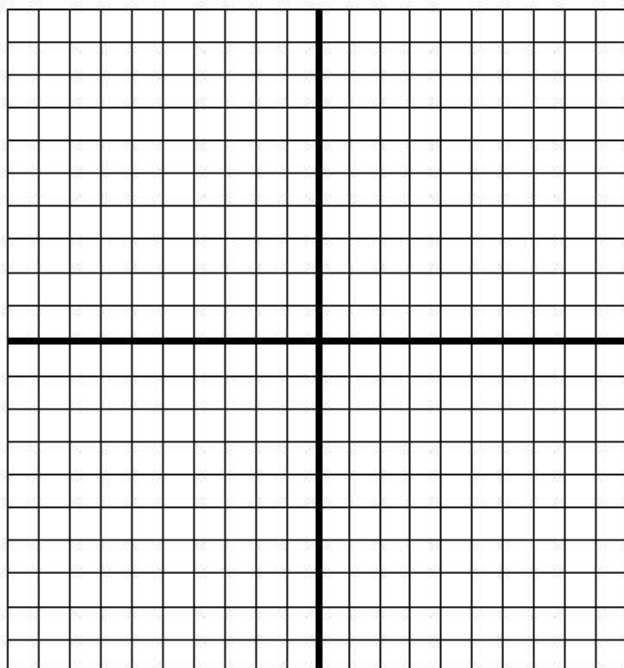VI. Identify the endpoints (A and B) and the midpoint (M).

A	
B	
M	

2. y = x - 7

I. Create a table.

x						
y						

II. List six coordinate pairs

_____

III. Graph the points on the coordinate plane below.

IV. Sketch the line of best fit on the graph above.

V. Calculate the gradient of the line.
   Gradient = _____

VI. Identify the endpoints (A and B) and the midpoint (M).

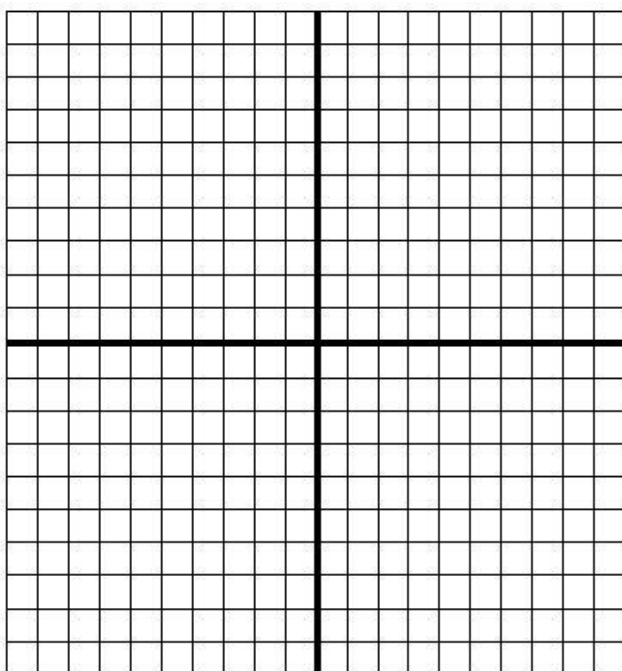|	
A	
B	
M	

C) Using the tables provided:

I.   Create a linear equation.
II. List the six coordinate pairs.
III. Graph the points on a coordinate plane.
IV. Sketch the line of best fit.

1.

x	0	2	4	6	8	10
y	-1	1	3	5	7	9

I. Create a linear equation.

_____

II. List the six coordinate pairs.

_____

III. Graph the points on the coordinate plane below.

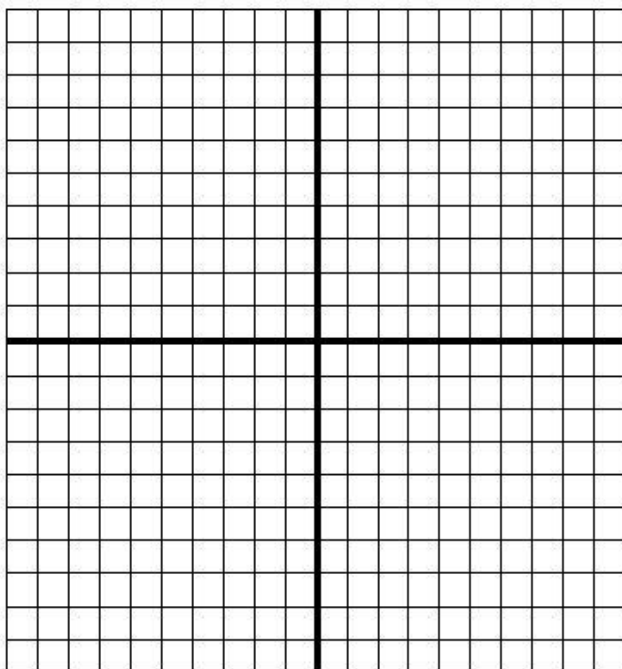IV. Sketch the line of best fit on the graph above.

2.

x	0	-2	-4	-6	-8	-10
y	-2	-4	-6	-8	-10	-12

I. Create a linear equation

_____

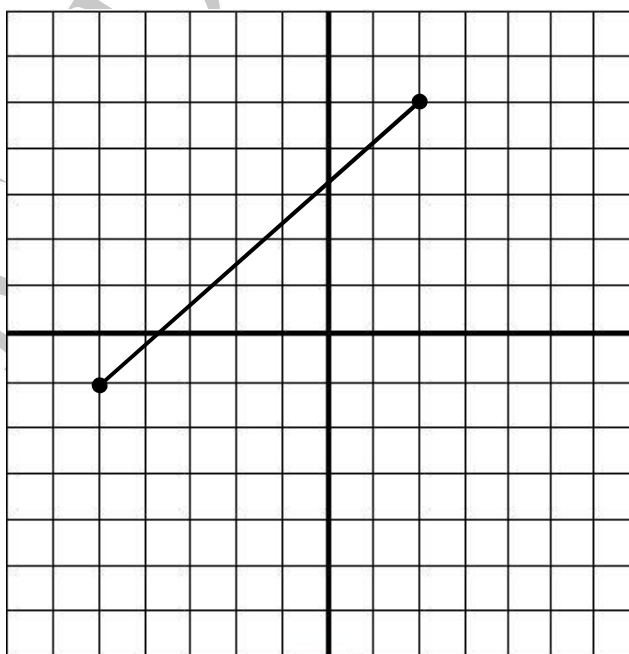II. List the six coordinate pairs.

III. Graph the points on the coordinate plane below.
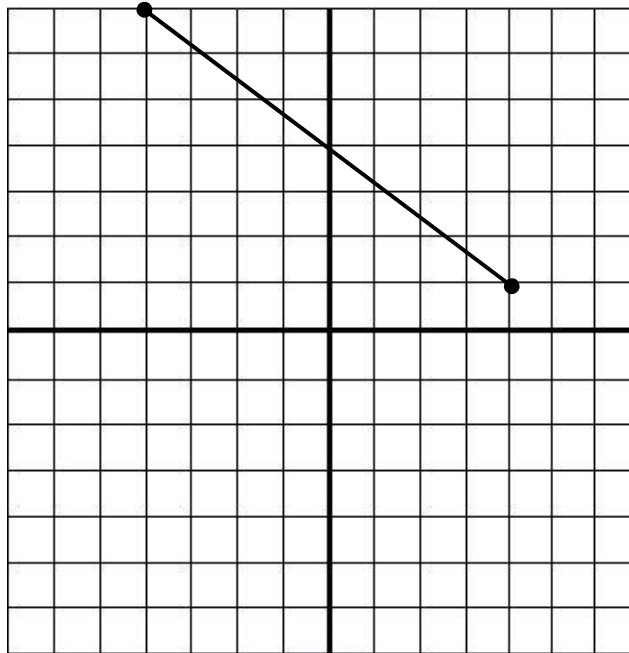
IV. Sketch the line of best fit on the graph above.

D) Identify the endpoints and plot the midpoint:

1.

A	
B	
M	

2.

A	
B	
M	

E) Using the endpoints given, find the midpoint and gradient:

1. Point A: (7, -3)
   Point B: (-3, -6)

   Midpoint:_____

   Gradient:_____

2. Point A: (-5, 4)
   Point B: (0,-9)

   Midpoint :_____

   Gradient: _____

F) On the corresponding graphs below, plot all data from E:

1.

2.