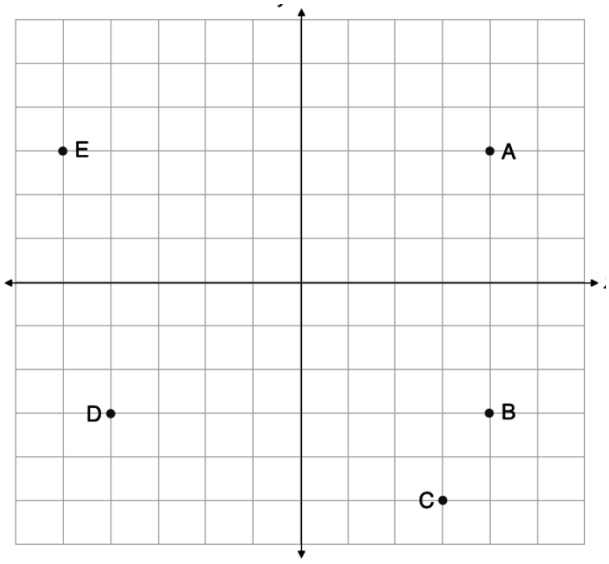
Name: _____

Mathematics 9
Unit 5 Linear Relations PRACTICE TEST

1. Give the coordinates of the points shown on the graph below.



A = _____

B = _____

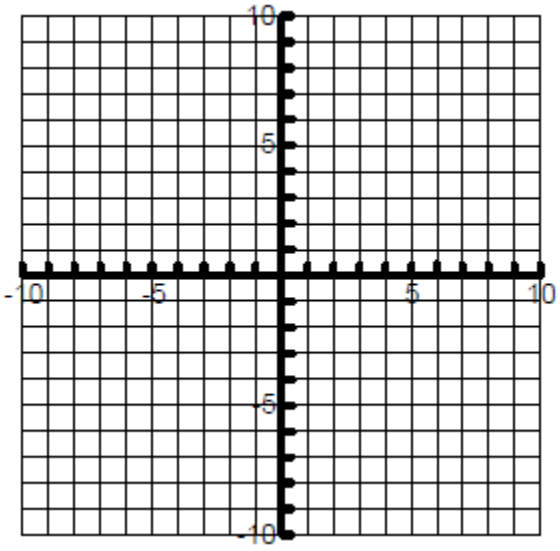
C = _____

D = _____

E = _____

2. Graph and label the following coordinates on the grid below.

A. (-3, 4) B. (0, 7) C. (7, 0) D. (-3, -6) E. (6, 4) F. (5, -6)



3. Determine the quadrant number for each of the points in question #2.

Point	Quadrant
A	_____
B	_____
C	_____
D	_____
E	_____
F	_____

3. Complete the table of values for each linear relation.

a) $y = 3x + 2$

x	y
-1	
0	
1	
2	

b) $y = -4x - 7$

x	y
-1	
0	
1	
2	

c) $x + 3y = 15$

x	y
-1	
0	
1	
2	

d) $2x - y = 18$

x	y
-1	
0	
1	
2	

4. Determine the equation for each of the table of values.

a)

n	C
0	0
1	12
2	24
3	36

b)

n	C
0	100
10	150
20	200
30	250

c)

n	C
0	-10
1	-25
2	-40
3	-55

d)

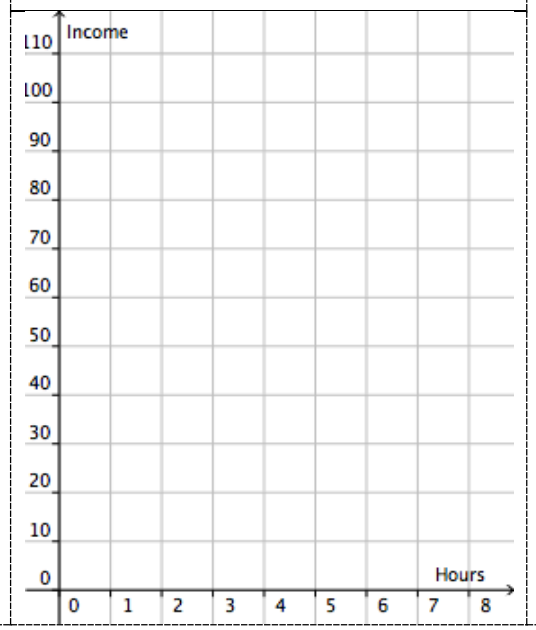
n	C
5	10
10	15
15	20
20	25

5. Jason cuts lawns as his summer job. He charges a travelling fee of $30 plus $20/hour for his time.

a) Fill out the table of	b) Plot as many points as will fit.	Answer the questions

values.
Let x= Hours & y= Income

x	y
1	
2	
3	
4	
5	
6	



c) Rate of change: How are the y values changing?

d) Write an equation to represent this pattern.

Y=_____

6. Determine the pattern and write an equation and evaluate.

X	y
1	9
2	11
3	13
4	15

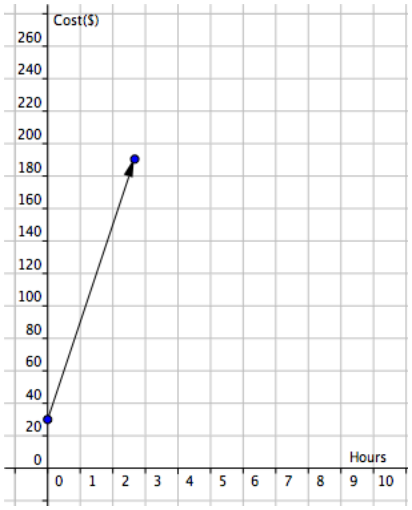
a) Equation: y=_____ b) If x=200, determine y.

7. Jeff installs windows and charges a fixed cost of $20 plus $80 for every window he installs.

a) Write an equation that relates his income to the number of windows he installs.

b) If he installs 10 windows, how much will a customer be charged?

8. The graph represents how much it costs to hire Caroline the electrician.



a) Interpolate: How long will Caroline have to work to earn $120?

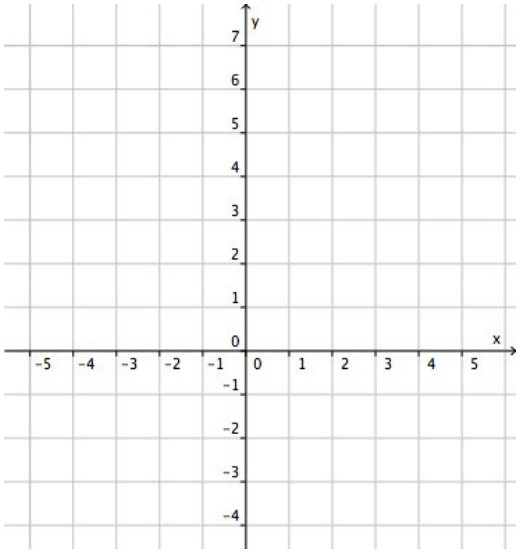
b) Extrapolate: Estimate how much it will cost to hire Caroline for 3.5 hours?

c) What is the dependent variable?

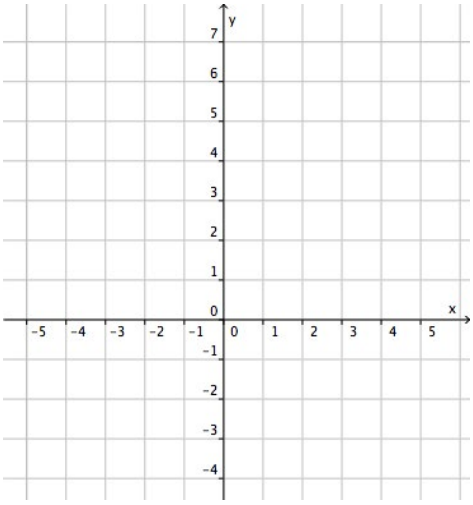
d)What is the independent variable?

9. Graph each equation using either a table of values or the properties of y = mx + b

1. Graph $y = 2x - 4$

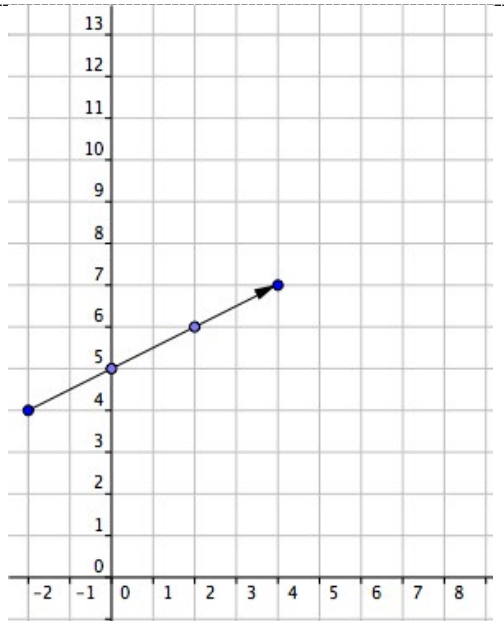


2. Graph $y = -\frac{1}{2}x + 4$



10.

11.



a) Estimate y if x=3

Y=

Circle one: Interpolation or Extrapolation?

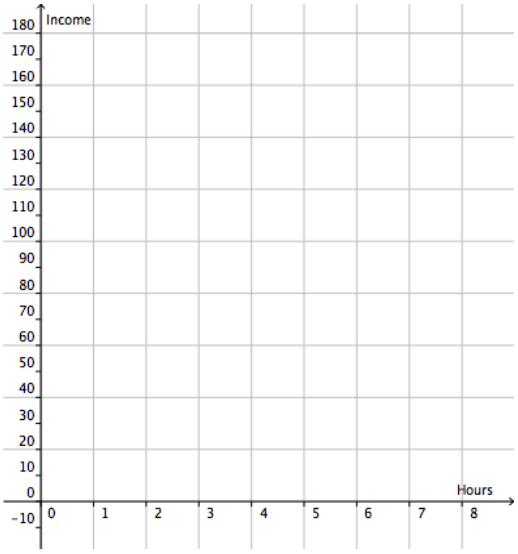
b) Predict x if y=10.

x=

Circle one: Interpolation or Extrapolation?

Volan currently charges his customers a fixed rate of $110 per job. His friend Juda thinks he will make more money if he charges a travel fee of $20 plus $10/hour.

a) Draw a graph to help Volan make his decision.



b)Describe the length of jobs that would make Juda's idea better idea than the fixed rate.

12. For the equation y = 3x + 7

a) Determine the x intercept

b) Write the coordinates of the x intercept

c) Find the y intercept

d) Write the coordinates of the y intercept

13. For the equation 10x + 5y = 40

a) Determine the x intercept

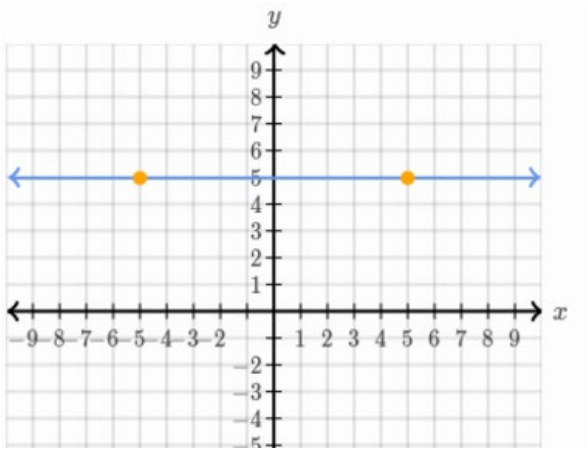
b) Write the coordinates of the x intercept

c) Find the y intercept

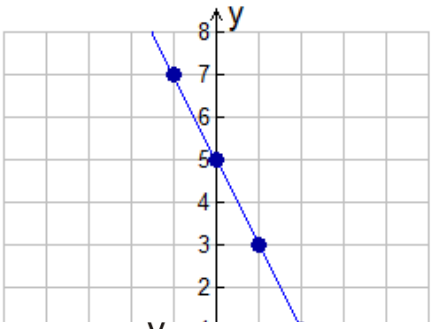
d) Write the coordinates of the y intercept

14. Using the graphs below determine the equations of the lines.

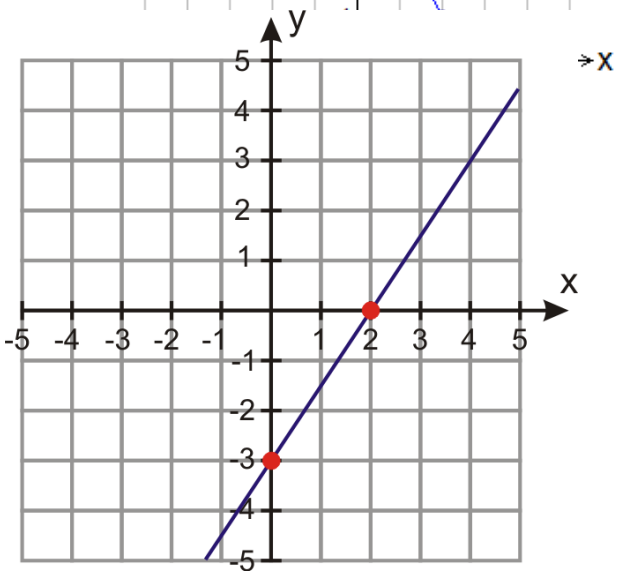
a)



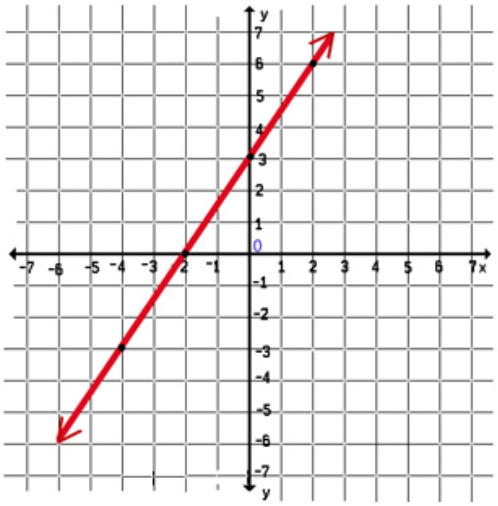
b)



c)



d)



e)