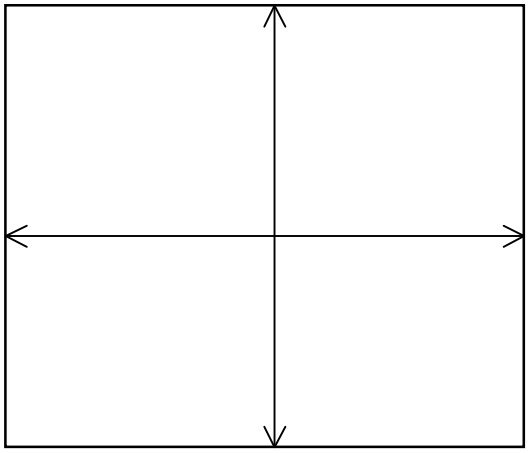
MATH 830 **Name**
Quiz 3
SAMPLE

No Graphing Calculators!
Use Algebraic Notation AND Show All of Your Work

[14 pts]
Graph by plotting points.

1. $2x - 3y = -6$

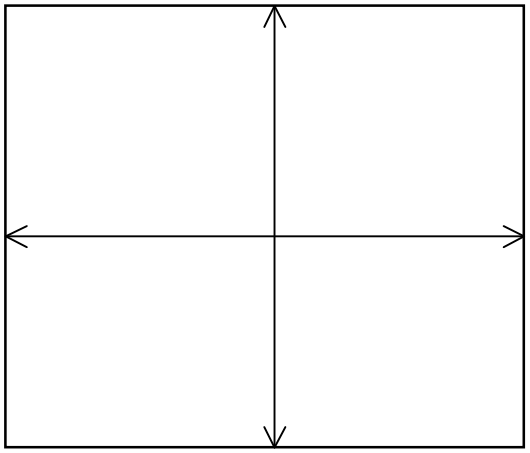
x	y



[21 pts]
Graph by plotting points.

2. $y = -x^2 + 2$

x	y



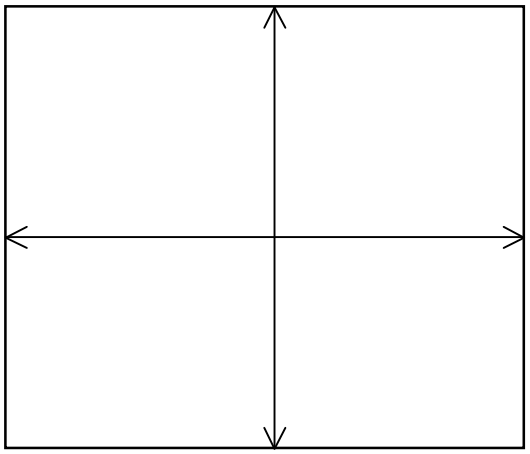
[16 pts]

Find the x- and y-intercepts, then graph the equation.

3. $-5x+3y=15$

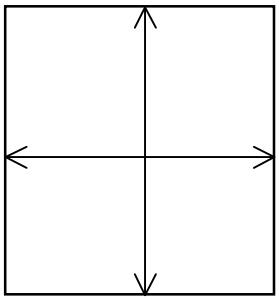
x-intercept = $(\quad,\quad)$

y- intercept = $(\quad,\quad)$

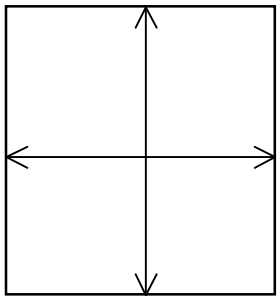


[5, 4, 4, 4, 4, 4 pts]

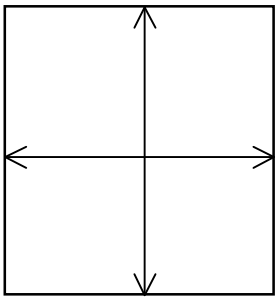
4. State a definition, or formula for the **slope** of a line, and explain in your own words what this means. Draw four examples, showing positive, negative, zero, and undefined slopes.



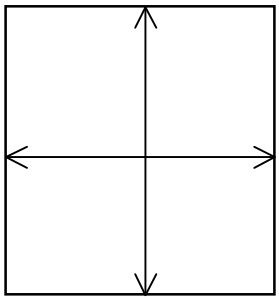
Positive slope



Negative slope



Zero slope



Undefined Slope

Definition:

Explanation:

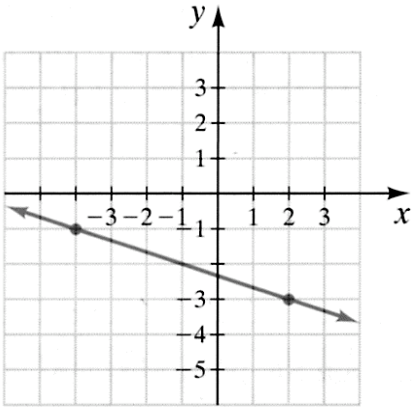
[12 pts]

5. Find the **slope** of the line through $(-14,-4)$ and $(-2,4)$.

***slope*= _____**

[10 pts]

6. By observing the vertical and horizontal change of the line between the two points indicated, determine the slope of the given line.



***slope*= _____**

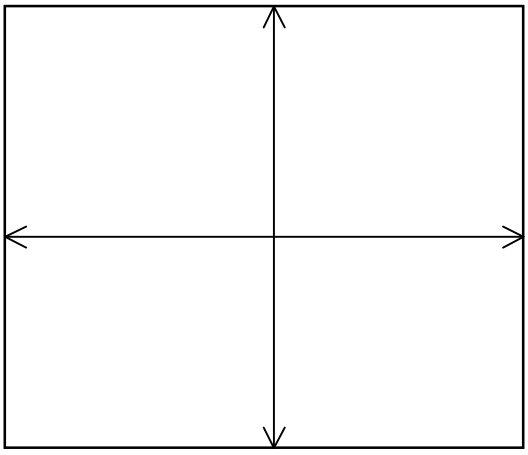
*Determine the **slope** and **y-intercept** of the line represented by each equation. Graph each line by using the slope and y-intercept.*

[7, 4, 10 pts]

7. $-2x = 5y + 10$

***slope* =_____**

***y- intercept* = (,)**

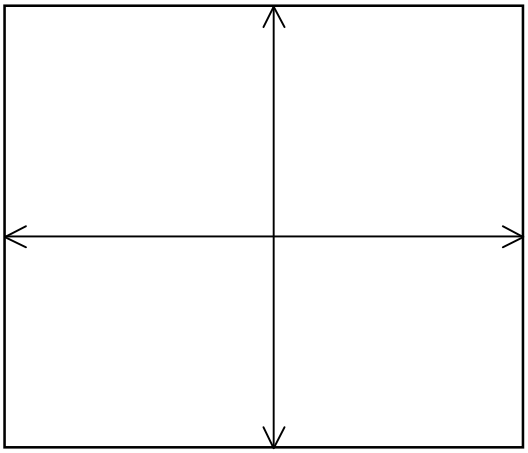


[10, 5, 10 pts]

8. $3x-2y-12=0$

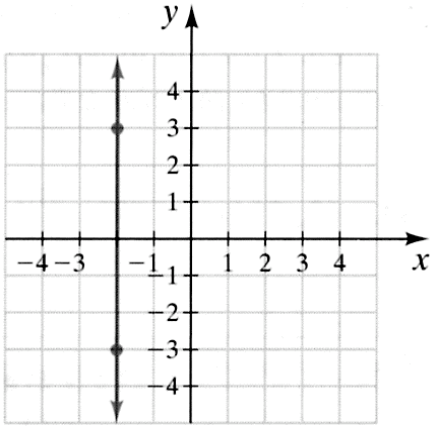
slope $=$_____

y- intercept $=$ $(\quad,\quad)$



[8, 3, 3 pts]

9. Write the equation of the line represented by the given graph. Give the coordinates of **<u>two</u>** points on the line.



point 1:_____

point 2:_____

Equation:_____

Write the equation of each line, with the given properties, in ***slope-intercept*** *form.*

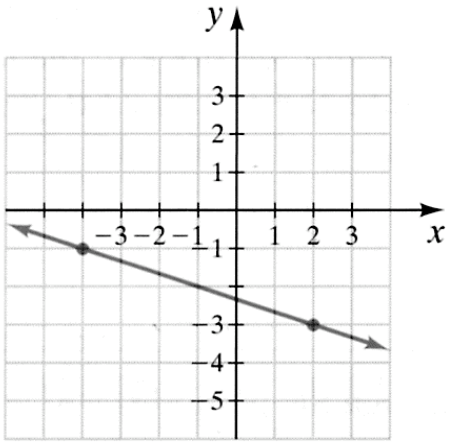
[22, 3 pts]

10. Through $(-14,-4)$ and $(-2,4)$

Equation:_____

[19, 3 pts]

11. From the given graph:



Equation:_____

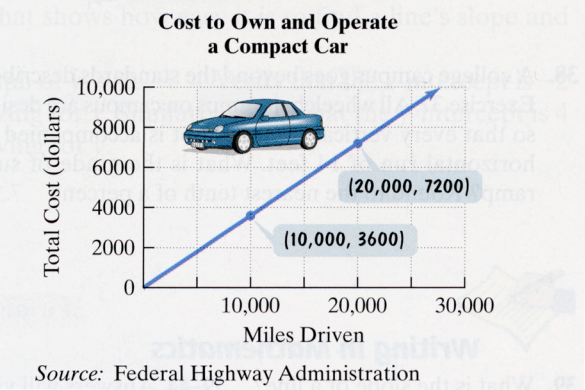
[28, 3 pts]

12. Through $\left(-3,\ \frac{1}{2}\right)$ and perpendicular to $3x-2y-12=0$

Equation:_____

[14, 3 pts]

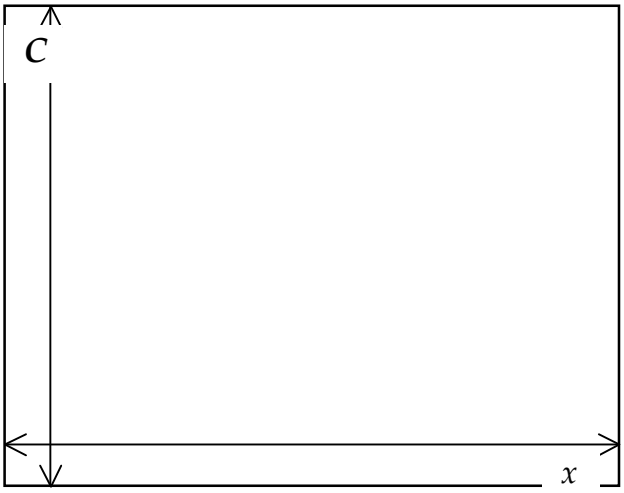
13. Consider the graph below. How much does it cost per mile to own and operate a compact car? *(Answer in a sentence.)*



ANS:_____

[20, 16, 12 pts]

14. A business discovers a linear relationship between the number of shirts it can sell and the price per shirt. In particular, 200 shirts can be sold at \$45 each, while 1200 shirts can be sold at \$25 each. **(a)** Write a linear equation expressing the cost of each shirt, C, in terms of the number of shirts sold, x. **(b)** Draw a graph of the cost of each shirt, C, versus the number of shirts sold, x. **(c)** How many shirts can be sold at \$35 each? *(Answer in a sentence.)*



(a) Equation:_____

(c) ANS:_____