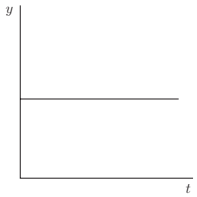
Math 110

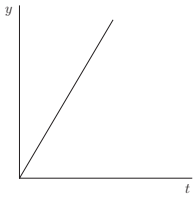
4.3 - 4.4 Quiz Name:_____

1. Match each graph to the situation it best describes.

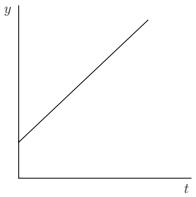
(i)



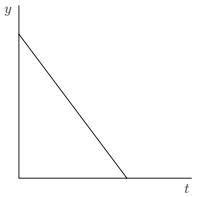
(ii)



(iii)



(iv)



(a) A bathtub filled with 40 gallons of water is draining at 0.8 gallons per minute until it is empty. The volume of water in the tub is plotted against time.

(b) An elevator starts at the second floor, 20 feet above the ground level, and then rises at 2 feet per second. The height of the elevator is plotted against time.

(c) Larry parks his car 15 feet from his house and stays home for the weekend. The distance Larry's car travels from his house is plotted against time.

(d) An employee earns \$12 per hour. Her income is plotted against time.

2. Write an equation for each situation described in (1).

(a)_____ (b)_____

(c)_____ (d)_____

3. Potatoes cost 60¢ a pound.

(a) Write an equation giving the cost in dollars, C, for p pounds of potatoes.

(b) Rewrite the slope in your equation as a fraction (of integers) and interpret the slope in terms of those numbers.

4. Complete the following.

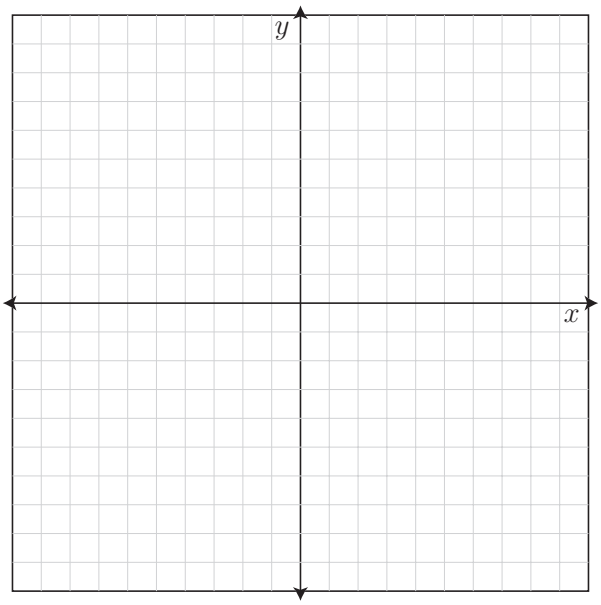
(a) Graph of the line $y = \frac{1}{3}x + 4$

(b) Graph the line perpendicular to $y = \frac{1}{3}x + 4$ and containing the point $(4, -3)$.

(c) *Estimate* the point where the two lines intersect.

(d) Write the equation of the line you graphed in (b).

(e) Use algebra to determine the point where the two lines intersect.



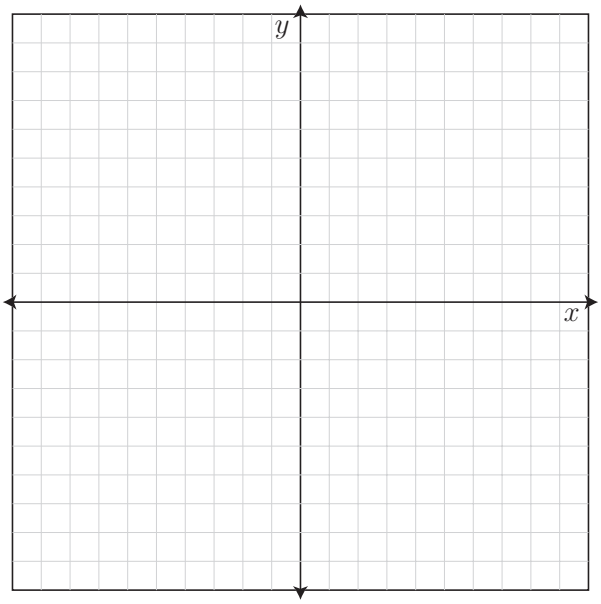
5. (a) Complete the table below for a linear relationship.

x	-6				2		
y	11				-9		

(b) Write the equation for the table above. _____

6. Complete the following.

(a) Find the equation of the line containing the points $(-10, -9)$ and $(2, 6)$ by graphing.



(b) Find the equation of the line containing the points $(-10, -9)$ and $(2, 6)$ by completing a table.

x							
y							

7. Solve.

(a) $\frac{3}{4}x - \frac{1}{2} = x + \frac{1}{3}$

(b) $\frac{x-2}{6} = \frac{2x+1}{2} - 5$

8. Solve $3(2x + 1) = 5x - 9 + x.$ in the following ways.

(a) By algebra.

(a) By graphing.

(c) Use your results to parts (a) and (b) to explain the solution.