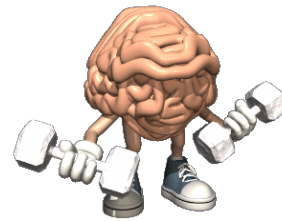


**Warm Up**



**1a)What is the slope of a line that passes through the points(14,-18) and (8, -20) ?**

**b)What is the slope of a line perpendicular to a line that passes through the points(5,3) and (-12, 6) ?**

## Warm up solutions

1a) What is the slope of a line that passes through the points (14, -18) and (8, -20) ?

$x_1$   $y_1$        $x_2$   $y_2$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$m = \frac{(-20) - (-18)}{(8) - (14)}$$

$$= \frac{-2}{-6}$$

$$= +\frac{1}{3}$$



## Warm up solutions

b) What is the slope of a line perpendicular to a line that passes through the points (5,3) and (-12, 6) ?

$x_1 y_1$        $x_2 y_2$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$= \frac{(6) - (3)}{(-12) - (5)}$$

$$= \frac{3}{-17}$$

$$= -\frac{3}{17}$$

$$m_{\perp} = +\frac{17}{3}$$

perpendicular

$$m_{\parallel} = -\frac{3}{17}$$

parallel

**slope**

**Intercept Form**

$$y = mx + b$$

$$y = mx + b$$

Slope (m)

y-intercept (b)

also have a point  
(0, y)

1)

$$\text{Given } y = -\frac{1}{2}x + 5$$

What is the slope and the y -intercept? (Write the y-intercept as an ordered pair)

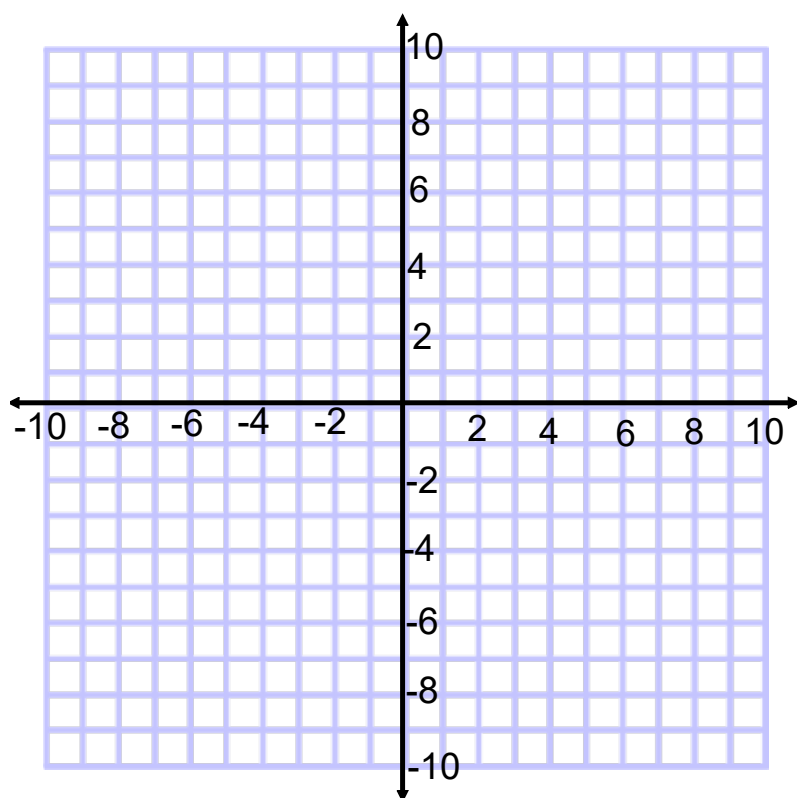
2)

$$\text{Given } y = 2x - 7$$

What is the slope and the y -intercept? (Write the y-intercept as an ordered pair)

3) Write the equation of a line given  $m = 2$  and a point of the line is  $(0, -3)$

The graph of a linear function has slope  $\frac{3}{5}$  and  $y$ -intercept  $-4$ .  
Write an equation for this function.



Graph the following

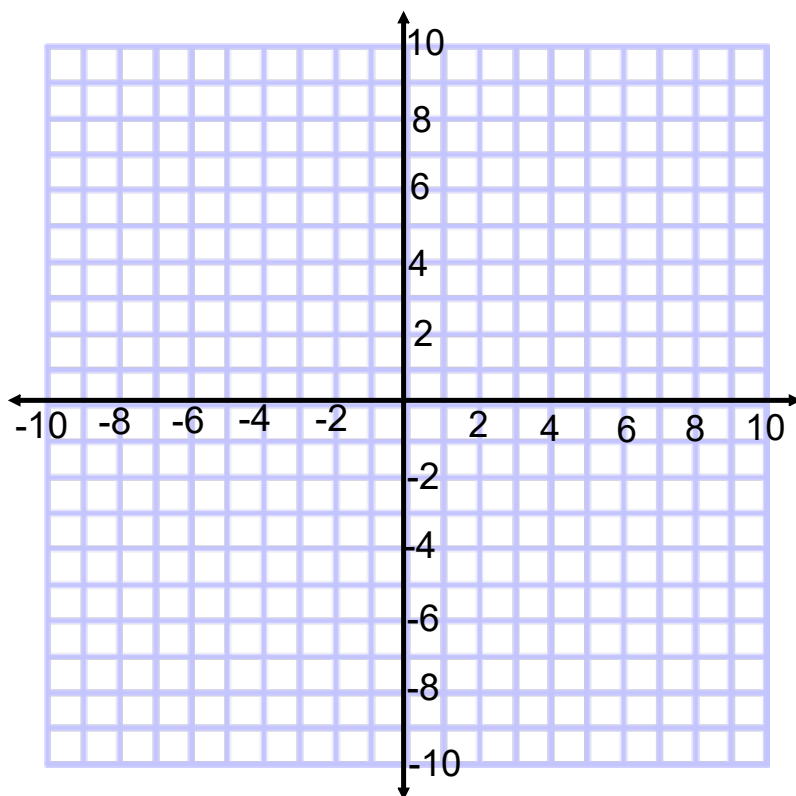
To graph a line you need :

i) One point

ii) Slope

1. The graph of a linear function has slope  $-\frac{7}{3}$  and  $y$ -intercept 5.

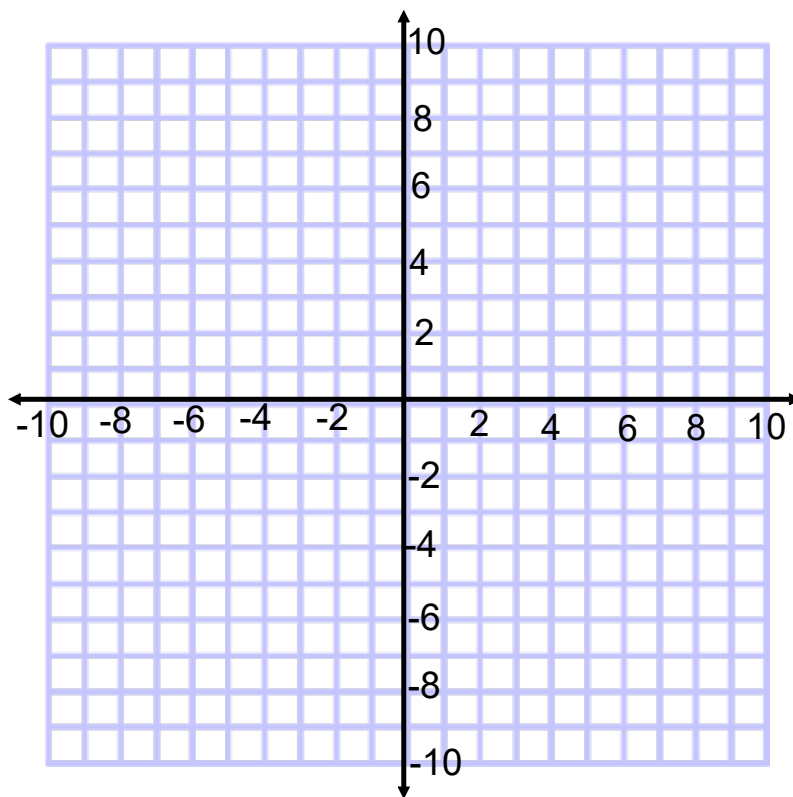
Write an equation for this function.





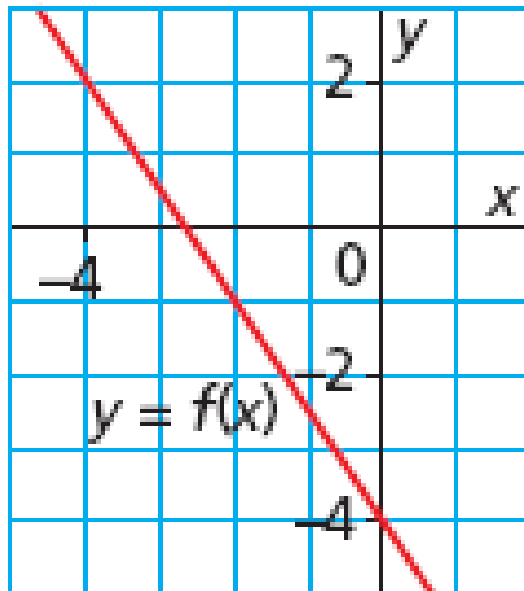
**Example 2****Graphing a Linear Function Given Its Equation in Slope-Intercept Form**

Graph the linear function with equation:  $y = \frac{1}{2}x + 3$

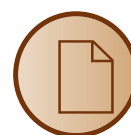
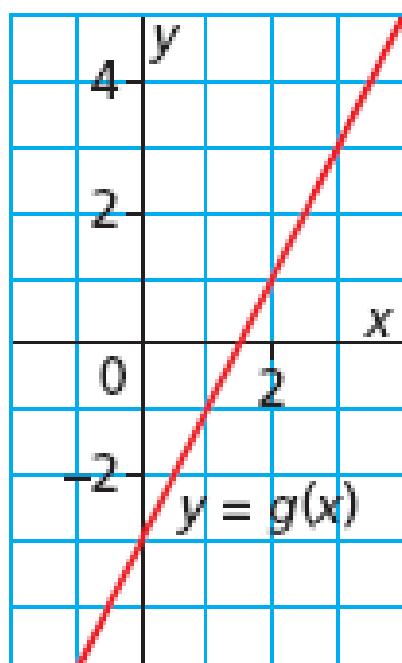


**Example 3****Writing the Equation of a Linear Function Given Its Graph**

Write an equation to describe this function.  
Verify the equation.



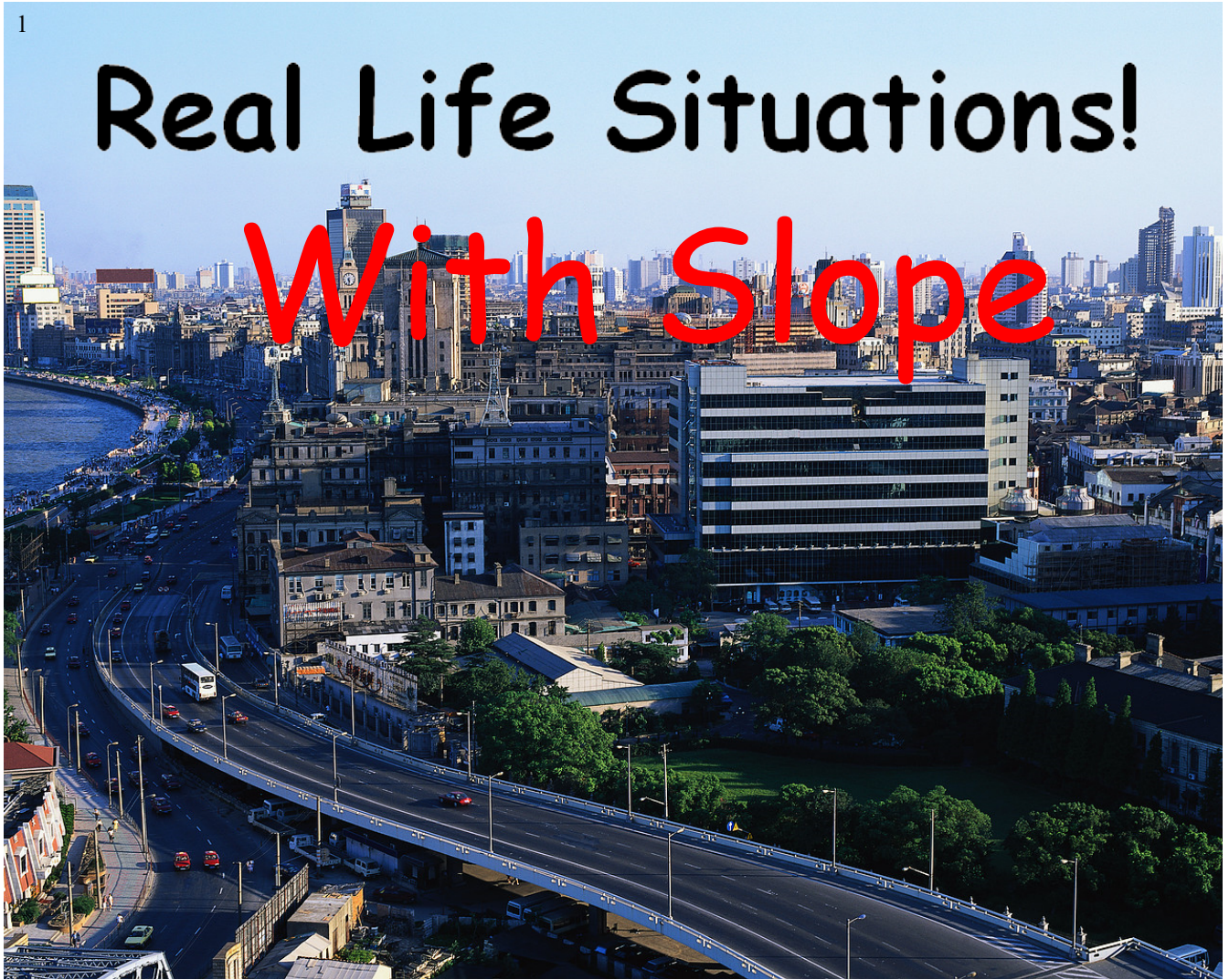
6. Write an equation to describe this function. Verify the equation.



1

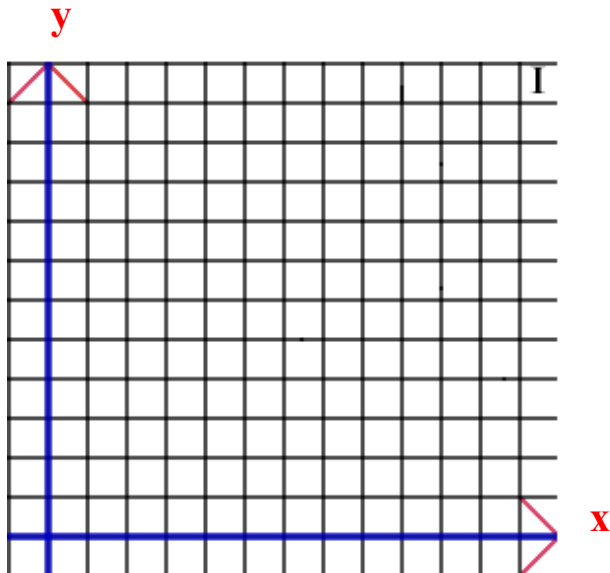
# Real Life Situations!

# With Slope



- 3 Ashley babysits on the weekend to make extra money. She charges \$15 as a flat rate and then \$5 every hour. Write an equation that represents the total pay she will make at the end of each babysitting job.

### Graph



b =  
m =  
x =  
y =

### Equation



1. How much would it cost to have Ashley babysit for 3 hours?
2. How many hours could you have Ashley babysit for if you had \$45?

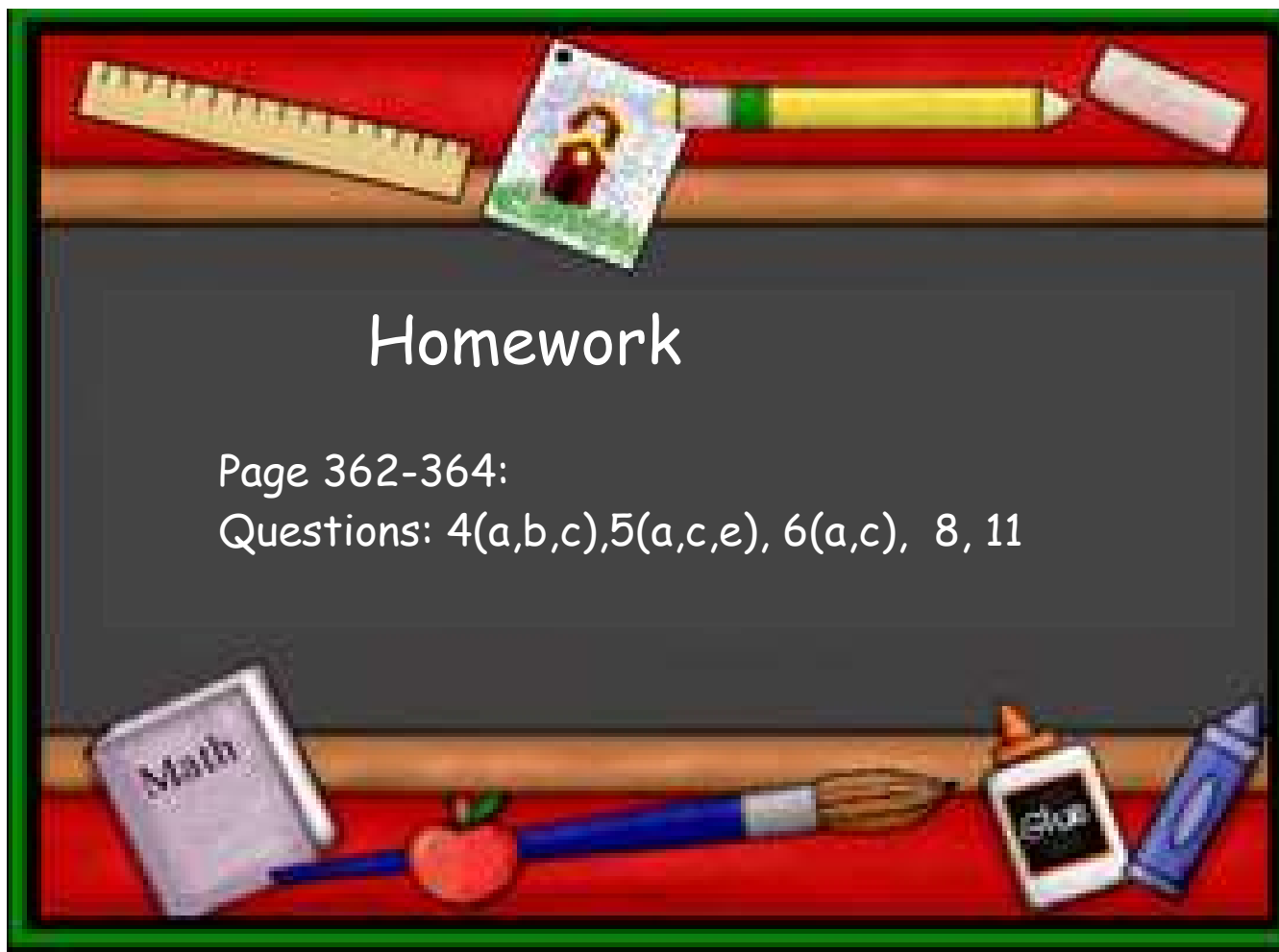
$$y = mx + b$$

**Slope (m) =** Cost per hour, Cost per Km, Cost per picture, etc....

**y-intercept (b) =** Initial cost, base rate, initial fee, flat rate, sitting fee, starting cost etc.....

**x =** Number of kilometers, Number of hours, Number of pictures, etc....

**y =** Total Cost \$\$\$\$ , Total Earned \$\$\$



4. For each equation, identify the slope and  $y$ -intercept of its graph.

a)  $y = 4x - 7$

b)  $y = x + 12$

c)  $y = -\frac{4}{9}x + 7$

d)  $y = 11x - \frac{3}{8}$

e)  $y = \frac{1}{5}x$

f)  $y = 3$



5. Write an equation for the graph of a linear function that:

a) has slope 7 and  $y$ -intercept 16

b) has slope  $-\frac{3}{8}$  and  $y$ -intercept 5

c) passes through  $H(0, -3)$  and has slope  $\frac{7}{16}$

d) has  $y$ -intercept  $-8$  and slope  $-\frac{6}{5}$

e) passes through the origin and has slope  $-\frac{5}{12}$

**6.** Graph the line with each  $y$ -intercept and slope.

a)  $y$ -intercept is 1, slope is  $\frac{1}{2}$

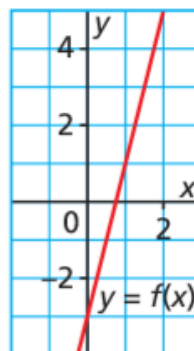
b)  $y$ -intercept is  $-5$ , slope is 2

c)  $y$ -intercept is 4, slope is  $-\frac{2}{3}$

d)  $y$ -intercept is 0, slope is  $\frac{4}{3}$

- 8.** For a service call, an electrician charges an \$80 initial fee, plus \$50 for each hour she works.
- a) Write an equation to represent the total cost,  $C$  dollars, for  $t$  hours of work.
  - b) How would the equation change if the electrician charges \$100 initial fee plus \$40 for each hour she works?

- 11.** A student said that the equation of this graph is  $y = -3x + 4$ .
- a) What mistakes did the student make?
  - b) What is the equation of the graph?

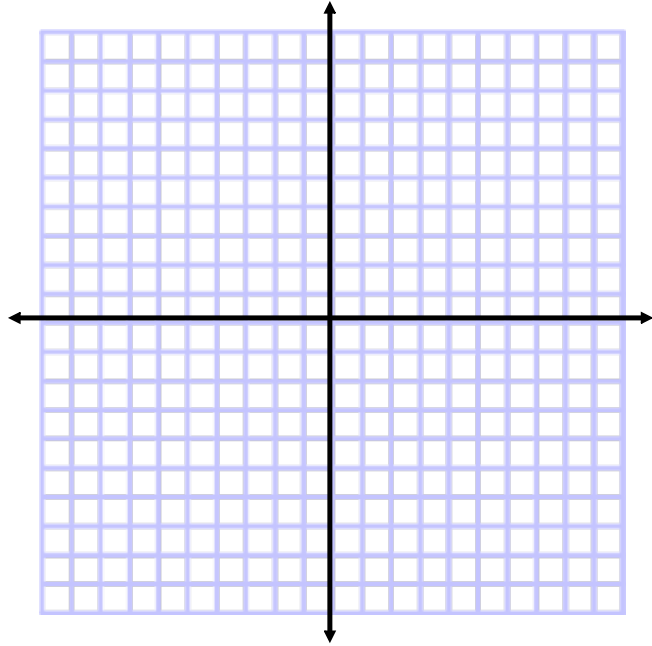


Worksheet #3

Graph the following:

y intercept = 6

Slope =  $-\frac{3}{7}$



## Solutions

Page 362-364:

Questions: 4(a,b,c), 5(a,c,e), 6(a,c), 8, 11

4. a) Slope: 4; y-intercept:  $-7$

b) Slope: 1; y-intercept: 12

c) Slope:  $-\frac{4}{9}$ ; y-intercept: 7

d) Slope: 11; y-intercept:  $-\frac{3}{8}$

e) Slope:  $\frac{1}{5}$ ; y-intercept: 0

f) Slope: 0; y-intercept: 3

5. a)  $y = 7x + 16$

b)  $y = -\frac{3}{8}x + 5$

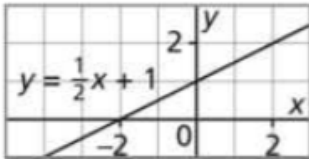
c)  $y = \frac{7}{16}x - 3$

d)  $y = -\frac{6}{5}x - 8$

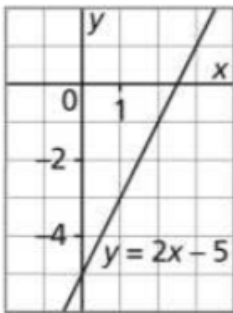
e)  $y = -\frac{5}{12}x$

6. Sketches may vary. For example:

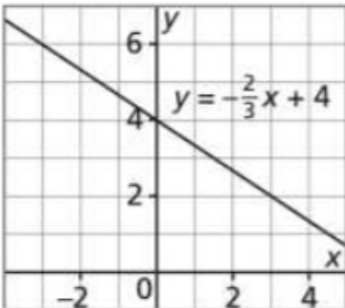
a)



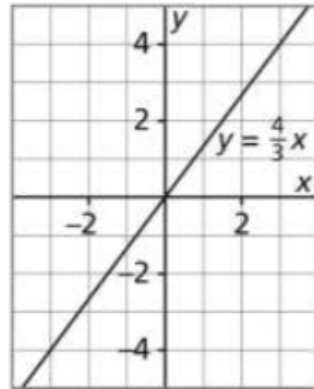
b)



c)



d)



8. a)  $C = 50t + 80$       b)  $C = 40t + 100$

11. a) The student may have confused the values of the slope and the  $y$ -intercept.

b)  $y = 4x - 3$

Worksheet #3

Solutions

Graph the following:

y intercept = 6  $\Rightarrow$  (0,6) *plot first*

Slope =  $\frac{-3}{7}$  *rise*  
*run*

