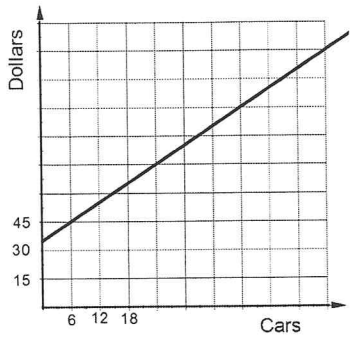
Algebra 1 Chapter 6 Review Fall 2014

1. Find the rate of change. Give your answer rounded to the nearest hundredth and include units.

a) Use this graph



b) Use this table.

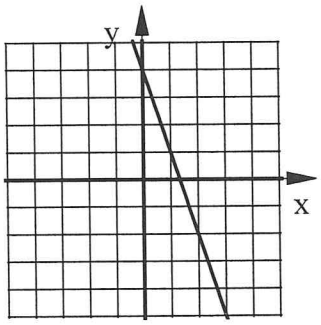
Time (min)	# calories burned
2	93.5
5	155.75
9	238.75
16	384

2. For parts a to c, write the equation of each line in slope-intercept form.

a) Line has a slope of $-\frac{2}{3}$ and passes through the point $(-6,5)$

b) Line passes through these two points: $(7,-6)\&(-5,18)$

c) Use the line in the graph.



3. Andre got $1200 for selling his motorcycle. He spends $15 each week.

a) Model this situation with an equation. Define your variables.

b) Find the amount of money he will have remaining in 8 weeks.

c) Find the number of weeks until he has only $300 remaining.

4. State the slope and y-intercept of each line.

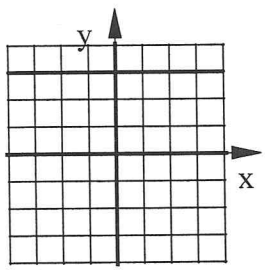
a) $y = 7x$ b) $y = 5$ c) $y = 6 - x$ d) $6x - 9y = 72$ e) $y + 7 = -2(x - 3)$ f) $x = -4$

5. For parts a to f, write the equation of each line.

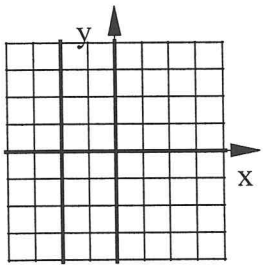
a) The slope of the line is undefined and the line passes through the point $(-5,8)$

b) The line passes through the points $(4,7)\&(-5,7)$

c)



d)



e) The slope is zero and the line passes through the point $(6,-1)$

f) The line passes through the points $(9,-4)\&(9,0)$

6. Find the x and y intercepts for this equation: $8x - 16y = 32$

7. A school is having a canned food drive. A box contains large and small can.. Large cans weigh 16 ounces and small cans weigh 12 ounces. The box weighs 960 ounces.

a) Model this situation with an equation. Define your variables.

b) If the box contains only Large cans find the number of large cans that are in the box.

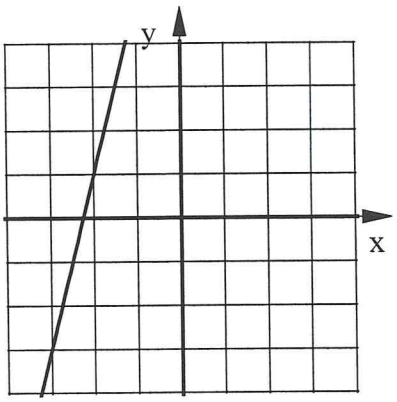
c) If you know that the box contains 20 small can find the number of large can that are also in the box.

8. Write the equation of the line in Point-Slope Form.

a) The line has a slope of 8 and passes through the point $(5,-7)$

b) The line passes through the two points $(11,-2)\&(-1,3)$

c) Use the line in the graph below:



9. Is each pair of lines parallel, perpendicular, or neither?

a)	b)	c)	d)	e)	f)
$y = 4x - 7$	$y = 3x - 7$	$y = -\frac{1}{2}x + 8$	$x = 4$	$y = 5$	$y + 1 = 2(x - 4)$
$y = \frac{1}{4}x + 3$	$6x - 2y = 14$	$2x + 4y = 24$	$y = 3$	$y = 5x - 7$	$2x - 4y = 20$

10. Given the line $y = 2x - 6$

a) Write the equation of a line parallel to this line and passing through the point $(-7,9)$. Give your answer in Slope-Intercept Form.

b) Write the equation of a line perpendicular to this line and passing through the point $(4,8)$. Give your answer in Point-Slope Form

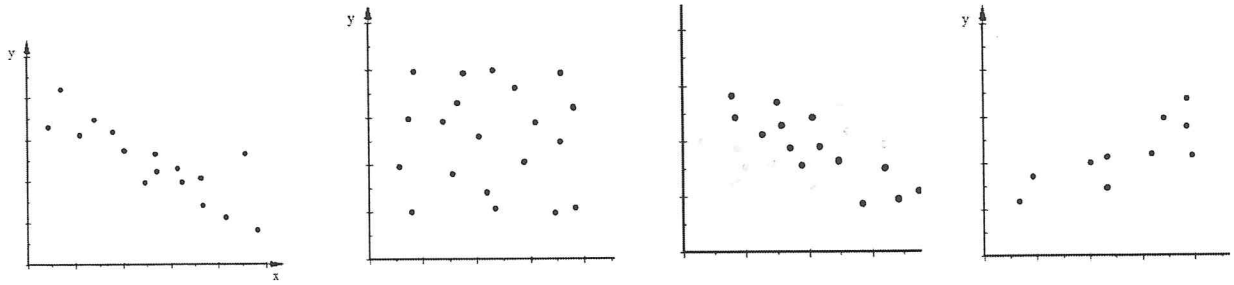
11. Graph each equation.

a) $y = -3x + 5$ b) $y = -\frac{3}{5}x$ c) $x = 6$ d) $16x - 24y = 48$ e) $y = -5$

f) $y - 1 = \frac{2}{3}(x + 6)$ g) $5x + 3y = 9$ h) $y - 5 = -3(x - 4)$

12. State if each scatter plot shows a Positive, Negative, or No Correlation.

a) b) c) d)



13. Use the data in the table below:

# of hours	Tons of steel
4	21
7	34
13	42
18	58
27	83

a) Make a scatter plot and draw the trend line.
b) Write an equation of the trend line. Round to the nearest hundredth.
c) Use this trend line to predict the tons of steel after 22 hours. Round to the nearest hundredth.
d) Use this trend line to predict the # of hours if there are 100 tons of steel.

Algebra 1 Chapter 6 Review ANSWERS Fall 2014

1. a) 1.67 $/car b) 20.75 cal/min
2. a) $y = -\frac{2}{3}x + 1$ b) $y = -2x + 8$ c) $y = -3x + 4$
3. a) $t = 1200 - 15w$ $t = Total\ \$$ $w = \#weeks$
   b) $1080 c) 60 weeks
4. a) $m = 7$ $y - int = 0$ b) $m = 0$ $y - int = 5$ c) $m = -1$ $y - int = 6$
   d) $m = \frac{2}{3}$ $y - int = -8$ e) $m = -2$ $y - int = -1$ f) m is undefined there is no y-int

5. a) $x = -5$ b) $y = 7$ c) $y = 3$ d) $x = -2$ e) $y = -1$ f) $x = 9$

6. $x - int = 4$ $y - int = -2$

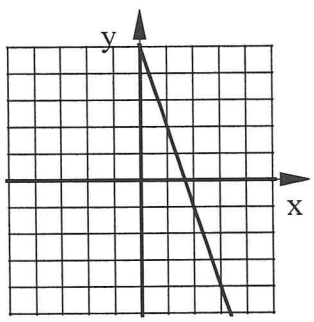
7. a) $960 = 16L + 12S$ $L = \#$ large cans $S = \#$ small cans
   b) 60 large cans c) 45 large cans

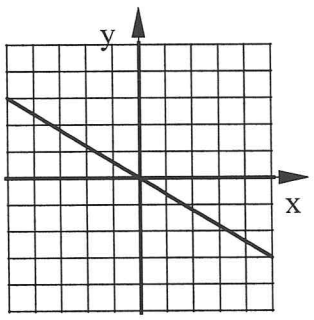
8. a) $y + 7 = 8(x - 5)$
   b) $y + 2 = -\frac{5}{12}(x - 11)$ *or* $y - 3 = -\frac{5}{12}(x + 1)$
   c) $y + 3 = 4(x + 3)$ *or* $y - 1 = 4(x + 2)$

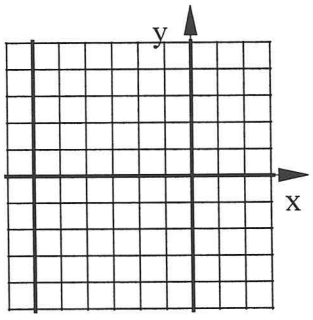
9. a) Neither b) Neither c) Parallel d) Perpendicular e) Neither f) Neither

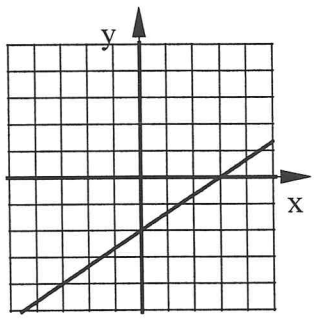
10. a) $y = 2x + 23$ b) $y - 8 = -\frac{1}{2}(x - 4)$

11. a) $y = -3x + 5$ b) $y = -\frac{3}{5}x$ c) $x = 6$ d) $16x - 24y = 48$

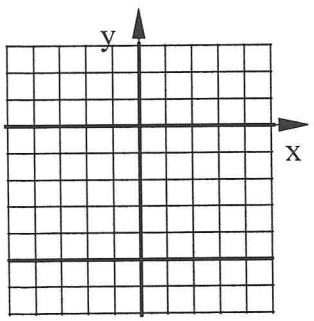


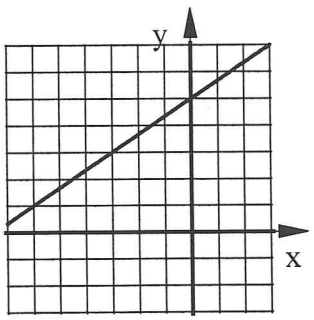


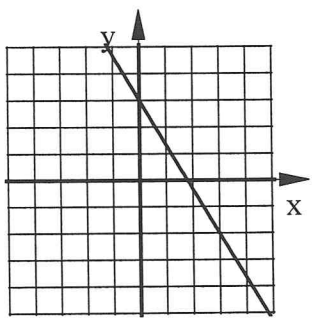


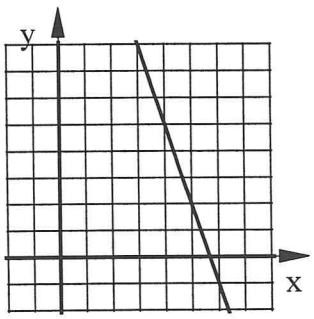


e) $y = -5$ f) $y - 1 = \frac{2}{3}(x + 6)$ g) $5x + 3y = 9$ h) $y - 5 = -3(x - 4)$



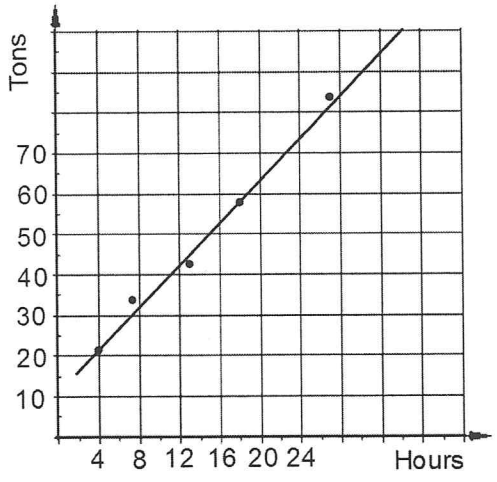






12. a) Negative Correlation b) No Correlation c) Negative Correlation d) Positive Correlation

13. a. possible scatter plot and trend line shown:



end line.

b) Equation using the two points: $(4,21)\&(18,58)$ $y-21=\frac{37}{14}(x-4)$ changing to

If you use a graphing calculator to find the line of best fit: $y=2.59x+11.80$ (line from graph in Slope-Intercept is: $y=2.64x+10.43$)

c) Using the line from the graph: 68.57 tons of steel

d) Using the line from the graph: 33.89 hours