Algebra 1 Bellwork Monday, November 24, 2014

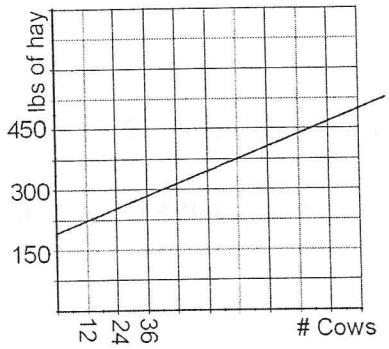
Use either the graphing calculator or a piece of graph paper.

1. Make a scatter plot of this data.

#days	3	5	7	11	19	23
# Sit-ups	30	33	40	45	62	70

2. Find the equation of the trend line. Round to the nearest hundredth.
3. Use the equation to predict the number of sit-ups after 120 days.
4. Use the equation to predict the number of days to do 500 sit-ups.

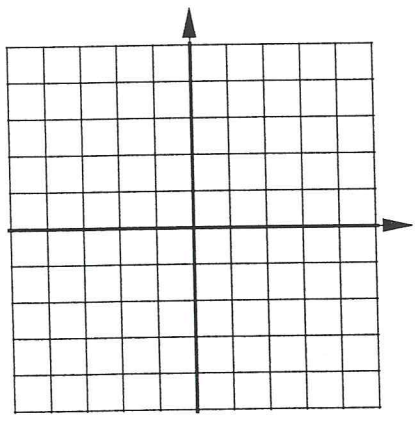
5. Find the rate of change. Give answer as a decimal rounded to the nearest hundredth and with units.

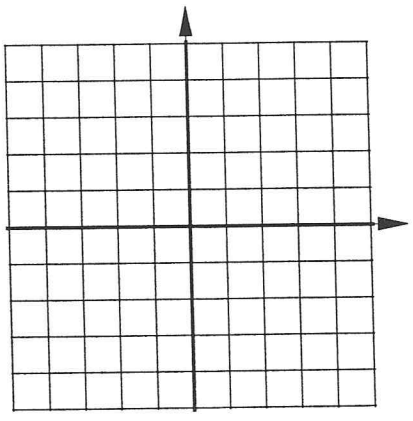


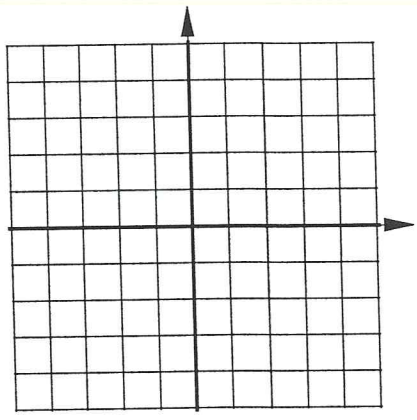
6. Write the equation of each line.
   a) Passes through the points $(5,7)\&(5,-3)$
   b) Has a slope of zero and passes through the point $(-25,41)$
   c) Passes through the points $(1,-8)\&(12,-8)$
   d) Slope is undefined and passes through the point $(-13,20)$

7. Write the equation of the line that passes through these two points in both Point-Slope and Slope-Intercept Forms: $(-12,17)\&(8,2)$

8. Graph each line.
   a) $y = -2x - 4$
   b) $8x - 12y = 24$
   c) $y + 1 = -3(x - 2)$

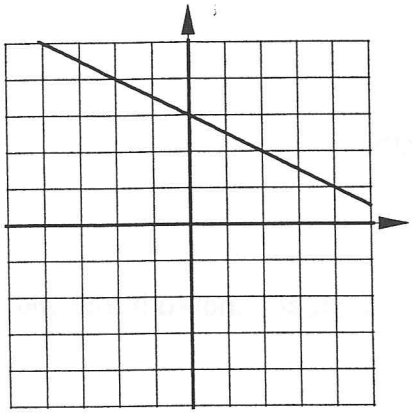




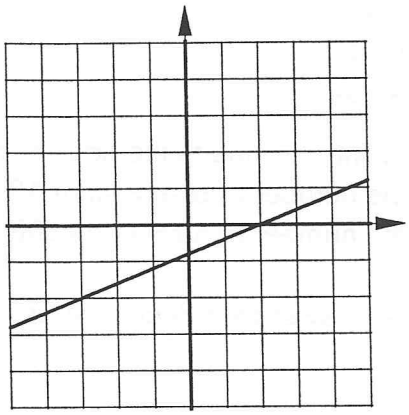


9. Write the equation of each line in the form specified.

a) Slope-Intercept Form



b) Point-Slope Form



10. Use this line: $y = 3x - 8$

a) Write the equation of a line that is parallel to this line and passes through the point $(-7, 2)$

b) Write the equation of a line that is perpendicular to this line and passes through the point $(-6, 5)$

11. Find the x and y intercepts of this line: $12x - 15y = 60$

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

a)	b)	c)	d)
$y = 4x$	$y = 2$	$y = 3x - 9$	$y = -2x + 5$
$4x + 2y = 9$	$x = 2$	$6x - 2y = 9$	$3x + 6y = 30$

Algebra 1 Bellwork Monday, November 24, 2014 ANSWERS

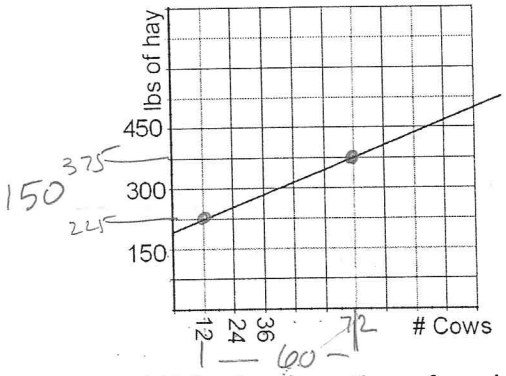
Use either the graphing calculator or a piece of graph paper.

1. Make a scatter plot of this data.

#days	3	5	7	11	19	23
# Sit-ups	30	33	40	45	62	70

2. Find the equation of the trend line. Round to the nearest hundredth. From calculator $y = 1.99x + 24.07$
3. Use the equation to predict the number of sit-ups after 120 days. 263 sit ups
4. Use the equation to predict the number of days to do 500 sit-ups. 239 days

5. Find the rate of change. Give answer as a decimal rounded to the nearest hundredth and with units.



rate of change $= \frac{150 \text{ lbs}}{60 \text{ cows}} = 2.5 \text{ lbs/cow}$

6. Write the equation of each line.
   a) Passes through the points $(5,7)\&(5,-3)$ $x = 5$
   b) Has a slope of zero and passes through the point $(-25,41)$ $y = 41$
   c) Passes through the points $(1,-8)\&(12,-8)$ $y = -8$
   d) Slope is undefined and passes through the point $(-13,20)$ $x = -13$

7. Write the equation of the line that passes through these two points in both Point-Slope and Slope-Intercept Forms: $(-12,17)\&(8,2)$

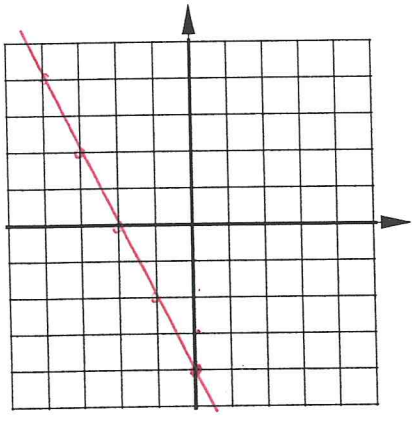
$m = \frac{17-2}{-12-8} = \frac{15}{-20} = -3/4$

point-slope $y - 17 = -3/4(x+12)$ or $y - 2 = -3/4(x-8)$

slope-intercept $y = -3/4x + 8$

8. Graph each line.

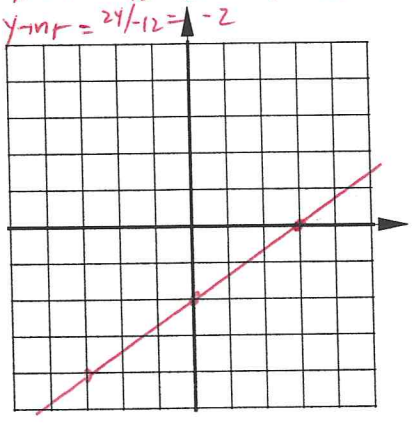
a) $y = -2x - 4$



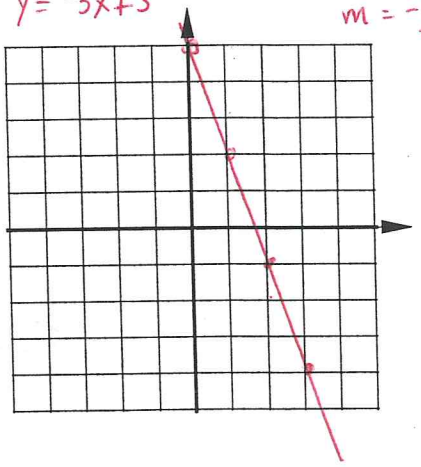
b) $8x - 12y = 24$ $y = 2/3x - 2$

x-int $= 24/8 = 3$

y-int $= 24/-12 = -2$



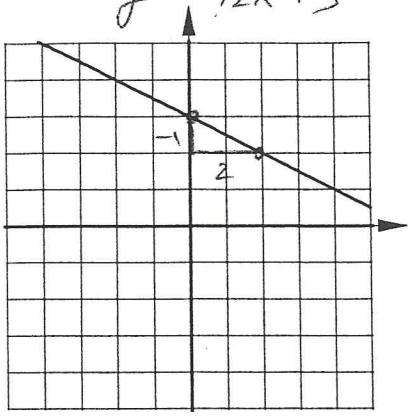
c) $y + 1 = -3(x - 2)$ $y = -3x + 5$ $(2,-1)$ $m = -3$



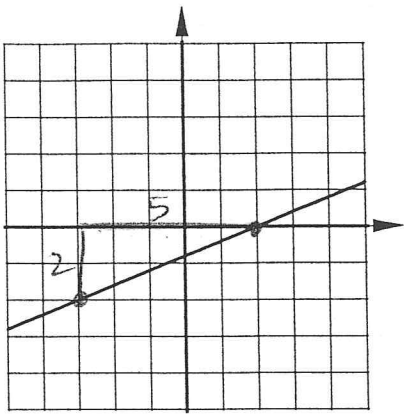
9. Write the equation of each line in the form specified.

a) Slope-Intercept Form

$y = -1/2x + 3$



b) Point-Slope Form



$m = 2/5$

$(-3,-2)$ $y+2 = 2/5(x+3)$

$(2,0)$ $y = 2/5(x-2)$

10. Use this line: $y = 3x - 8$

a) Write the equation of a line that is parallel to this line and passes through the point $(-7,2)$

$m = 3$ $y-2 = 3(x+7)$ or $y = 3x + 23$

b) Write the equation of a line that is perpendicular to this line and passes through the point $(-6,5)$

$m = -1/3$ $y-5 = -1/3(x+6)$ or $y = -1/3x + 3$

11. Find the x and y intercepts of this line: $12x - 15y = 60$

X-INT $= 60/12 = 5$ y-INT $= 60/-15 = -4$

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

a) $y = 4x$ and $4x + 2y = 9$

$y = \frac{9-4x}{2}$

$y = 9/2 - 2x$

Neither

b) $y = 2$ and $x = 2$

⊥

c) $y = 3x - 9$ and $6x - 2y = 9$

$y = \frac{9-6x}{-2}$

$y = -9/2 + 3x$

parallel

d) $y = -2x + 5$ and $3x + 6y = 30$

$y = \frac{30-3x}{6}$

$y = 5 - 1/2x$

Neither