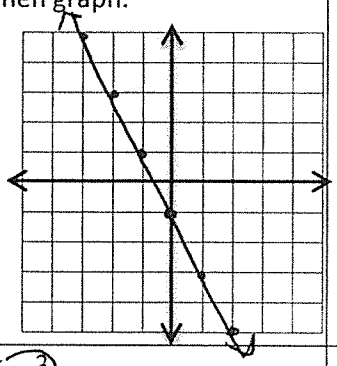
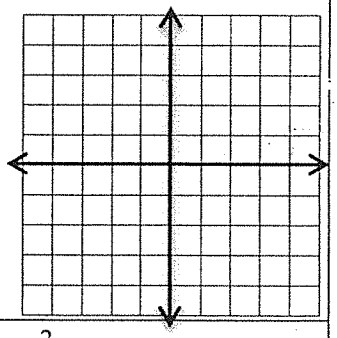
Algebra P3
Practice Quiz

Name:

I do	You do
Write an equation for the line in slope-intercept form. slope = $-\frac{1}{3}$ passing through the point (9, -5) $y+5=-\frac{1}{3}(x-9)$ $x_1\ y_1$ $y+5=-\frac{1}{3}x+3$ $\boxed{y=-\frac{1}{3}x-2}$	Write an equation for the line in slope-intercept form. slope = $-\frac{1}{5}$ passing through the point (10, -2)
Find the equation of the line through the points (-2, 5) and (-6, -3) $x_2\ y_2$ $m=\frac{-3-5}{-6+2}=\frac{-8}{-4}=2$ $x_1\ y_1$ $y-5=2(x+2)$ $y-5=2x+4$ $\boxed{y=2x+9}$	Find the equation of the line through the points (2, 2) and (-1, -4)
Find the slope and y-intercept. Then graph. $-2x-y=1$ $+2x \quad +2x$ $\frac{-y}{-1}=\frac{2x+1}{-1}$ $\boxed{y=-2x-1}$ slope = $\boxed{-2}$ y-intercept = $\boxed{(0,-1)}$ 	Find the slope and y-intercept. Then graph. $3x-y=2$ slope = y-intercept = 
Are the lines $3x+4y=5$ and $y=\boxed{-\frac{3}{4}}x+1$ parallel, perpendicular, or neither? $3x+4y=5$ $4y=-3x+5$ $y=\boxed{-\frac{3}{4}}x+5$ slopes are both $-\frac{3}{4}$ $\boxed{\text{parallel}}$	Are the lines $2x-3y=2$ and $y=-\frac{3}{2}x-1$ parallel, perpendicular, or neither?
Find the equation of the line that is parallel $y=-2x+1$ to and goes through (-3, 2). $y-2=-2(x+3)$ $y-2=-2x-6$ $\boxed{y=-2x-4}$	Find the equation of the line that is parallel $y=3x-2$ to and goes through (5, -1).

Find the equation of the line that is perpendicular to $y = -2x + 1$ and goes through (-3, 2).

old slope = -2

new slope = $\frac{1}{2}$

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

$y - 2 = \frac{1}{2}x + \frac{3}{2}$

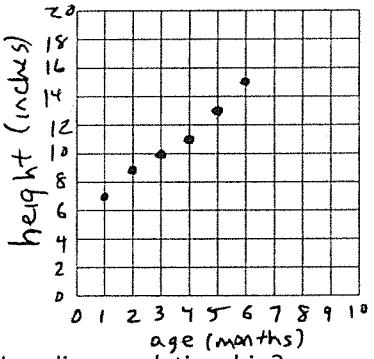
$+2 \qquad +2 = +\frac{4}{2}$

$y = \frac{1}{2}x + \frac{7}{2}$

Find the equation of the line that is perpendicular to $y = 3x - 2$ and goes through (5, -1).

Here is some data on terrier heights (months vs. inches).

Age	Height
1	7
2	9
3	10
4	11
5	13
6	15



a) Does this seem like a linear relationship?

yes - very!!

b) Use the points (1, 7) and the point (5, 13) to find the equation of a line through the data.

$m = \frac{13 - 7}{5 - 1} = \frac{6}{4} = \frac{3}{2}$

$y - 7 = \frac{3}{2}(x - 1)$

$y - 7 = \frac{3}{2}x - \frac{3}{2}$

$+7 \qquad +7 = \frac{14}{2}$

$y = \frac{3}{2}x + \frac{11}{2}$

c) Explain the meaning of the slope in the context of this problem.

$\frac{3}{2}$ every time 2 months go by, the height goes up by 3 inches

d) Explain the meaning of the y-intercept in the context of this problem.

$(0, \frac{11}{2})$ When terriers are born, they are $5\frac{1}{2}$ inches high

e) Predict the height of a terrier when the dog is 25 months old. What do you make of this result?

$y = \frac{3}{2}(25) + \frac{11}{2}$

$= \frac{75}{2} + \frac{11}{2}$

$= \frac{86}{2} =$ 43 inches

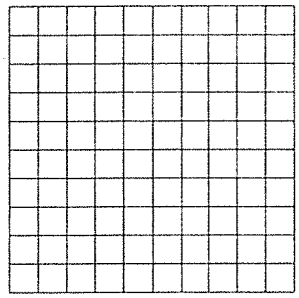
(= 3 feet, 7 inches!)

This doesn't make sense. Terriers aren't ever that tall!

The data is only linear for a while - it must flatten out as the dogs stop growing

Here is some data on showing what happens when Mr. Simon takes care of a plant.

Day	Height
1	6
2	6
3	5
4	4
5	4
6	3



a) Does this seem like a linear relationship?

b) Use the points (1, 6) and the point (5, 4) to find the equation of a line through the data.

c) Explain the meaning of the slope in the context of this problem.

d) Explain the meaning of the y-intercept in the context of this problem.

e) Predict the value of the height when the plant has been watered by Mr. Simon for 20 days. What do you make of this result?