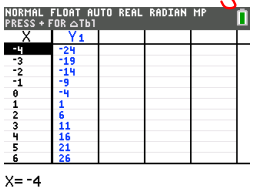
Algebra 1 Test 3 Review
Graphing Linear Equations

1 Which ordered pair is a solution of the equation y = 5x – 4?

$6=5(2)-4$ Y= 2nd graph

A (5, -9)
B (6, 12)
C (-3, 4)
D (2, 6)



2 **Find the slope** of the line passing through each pair of points listed below.

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

a.) (3, 9) and (-4, 9) $x_1\ y_1$ $x_2\ y_2$

$\frac{9-9}{-4-3}=\frac{0}{-7}=0$ Zero

b.) (-4, 8) and (4, 2) $x_1\ y_1$ $x_2\ y_2$

$\frac{2-8}{4--4}=\frac{-6}{8}=\frac{-3}{4}$

c.) (-2, -4) and (-2, 5) $x_1\ y_1$ $x_2\ y_2$

$\frac{5--4}{-2--2}=\frac{9}{0}=$ Undefined

d.) (-3, -10) and (3, -8) $x_1\ y_1$ $x_2\ y_2$

$\frac{-8--10}{3--3}=\frac{2}{6}=\frac{1}{3}$

3 **Find the slope** of the line passing through (5, 1) with an x-intercept of 4. (#, 0)

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

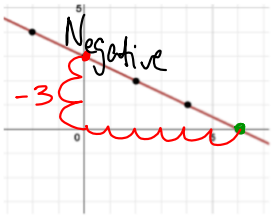
$\frac{0-1}{4-5}=\frac{-1}{-1}=1$ (4, 0) $x_2\ y_2$

4 **Find the slope** of the line passing through (3, -1) with a y-intercept of 5. (0, #)

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

$\frac{5--1}{0-3}=\frac{6}{-3}=-2$ (0, 5) $x_2\ y_2$

Given the following graph:



a.) x-intercept? (6, 0)

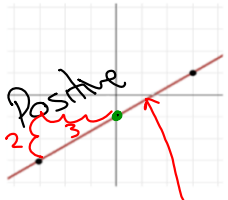
b.) y-intercept? (0, 3)

c.) Slope? $\frac{\downarrow 3}{\rightarrow 6}=-\frac{1}{2}$

d.) Slope of the line parallel to this line? $\|m=-\frac{1}{2}$

e.) Slope of the line perpendicular to this line? $\perp m=\frac{2}{1}$

6 Given the following graph



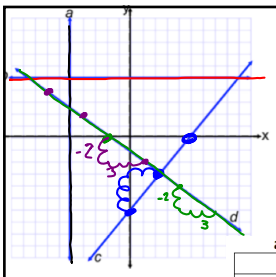
a.) The x-intercept is between which two numbers? 1 and 2

b.) y-intercept? (0, -1)

c.) Slope? $\frac{\text{rise}}{\text{run}}$ $\frac{\uparrow 2}{\rightarrow 3}=\frac{2}{3}$

d.) Slope of the line parallel to this line? $\|m=\frac{2}{3}$

e.) Slope of the line perpendicular to this line? $\perp m=-\frac{3}{2}$



a.) Complete the following chart:

	Slope	//Slope	⊥ Slope
Line *a*	Und.	Und.	0
Line *b*	0	0	Und
Line *c*	3/2	3/2	-2/3
Line *d*	-2/3	-2/3	3/2

b.) Complete the following chart:

	x-intercept	y-intercept
Line *a*	(-5,0)	DNE
Line *b*	DNE	(0,5)
Line *c*	(5,0)	(0,-6)
Line *d*	(-2,0)	(0,-1)

8 **Given 3x – 2y = 6**

Y=mx+b

a.) Write this equation in slope-intercept form.

$3x-2y=6$, $-3x$, $-2y=-3x+6$, $\frac{-2y}{-2}=\frac{-3x+6}{-2}$, $y=\frac{3}{2}x-3$

Graph: Y= graph. Table: 2nd graph

b.) What is the slope of this equation? 3/2 Positive

c.) What is the slope of the line parallel to this line? 3/2

11m =

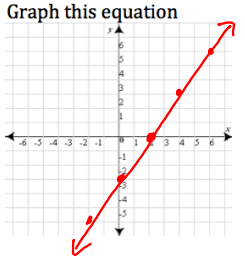
d.) What is the slope of the line perpendicular to this line?

⊥m = -2/3

e.) What is the y-intercept of this equation? (0,-3)

f.) What is the x-intercept of this equation? (2,0)

g.) Graph this equation



9 **Given y = -4x + 4**

a.) What is the slope of this equation? -4/1

b.) What is the slope of the line parallel to this line? -4/1

c.) What is the slope of the line perpendicular to this line? 1/4

d.) What is the y-intercept of this equation? (0,4)

e.) What is the x-intercept of this equation? (1,0)

Y=0

$y=-4x+4$

$0=-4x+4$

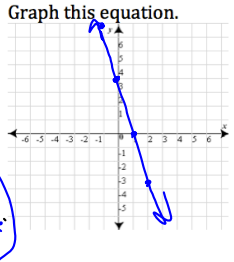
$-4 \quad -4$

$\frac{-4}{-4}=\frac{-4x}{-4}$

$1=x$

2nd graph look where y=0

f.) Graph this equation.



10 **Given 6x + 3y = 12**

Y=mx+b

a.) Write this equation in slope-intercept form.

$6x+3y=12$, $-6x \quad -6x$, $\frac{3y}{3}=\frac{-6x+12}{3}$, $y=-2x+4$

b.) What is the slope of this equation? Negative -2/1

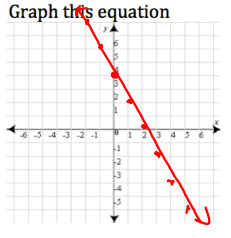
c.) What is the slope of the line parallel to this line? -2/1

d.) What is the slope of the line perpendicular to this line? 1/2

e.) What is the y-intercept of this equation? (0,4)

f.) What is the x-intercept of this equation? (2,0)

g.) Graph this equation



11 **y = 2(x – 4) + 3**

a.) Write this equation in slope-intercept form.

$y=2x-8+3$

$y=2x-5$

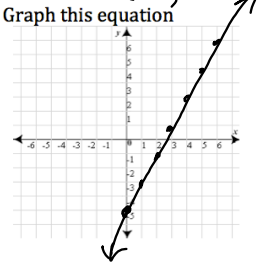
b.) What is the slope of this equation? m=2/1

c.) What is the slope of the line parallel to this line? 11m= 2/1

d.) What is the slope of the line perpendicular to this line? ⊥m= -1/2

e.) What is the y-intercept of this equation? (0,-5)

f.) Graph this equation



12 **Given x – 4y = -16**

a.) Write this equation in slope-intercept form.

$x-4y=-16$, $-x \quad -x$, $\frac{-4y}{-4}=\frac{-1x-16}{-4}$, $y=\frac{1}{4}x+4$

$y=\frac{1}{4}x+4$

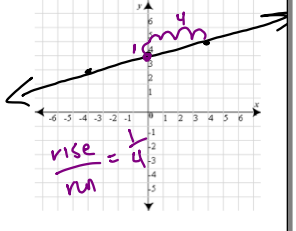
b.) What is the slope of this equation? m = 1/4

c.) What is the slope of the line parallel to this line? 11m = 1/4

d.) What is the slope of the line perpendicular to this line? ⊥m = -4/1

e.) What is the y-intercept of this equation? (0,4)

f.) Graph this equation



13 **Given $3y = 4x + 6$**

a.) Write this equation in slope-intercept form.

$\frac{3y}{3} = \frac{4x+6}{3}$

$y = \frac{4}{3}x + 2$

$y = \frac{4}{3}x + 2$

b.) What is the slope of this equation?

$m = 4/3$

c.) What is the slope of the line parallel to this line? $4/3$

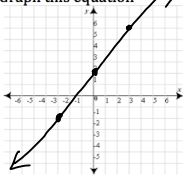
$\|m =$

d.) What is the slope of the line perpendicular to this line?

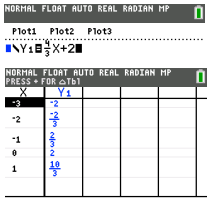
$\perp m = -3/4$

e.) What is the y-intercept of this equation? $(0,2)$

f.) Graph this equation

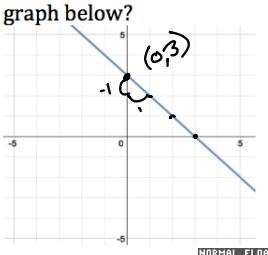


Y= 2nd graph



X= -3

14 Which equation best describes the graph below?

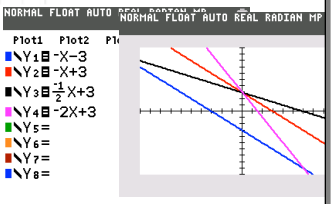


~~A~~ $y = -x - 3$

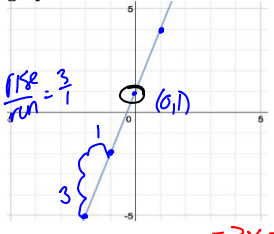
B $y = -x + 3$

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

D $y = -2x + 3$



15 Which equation best describes the graph below?



$-12x - 4y = -4$

$+12x \quad +12x$

$\frac{-4y}{-4} = \frac{12x-4}{-4}$

$y = -3x + 1$

~~A~~ $4y = 12x - 4$ ← $y = 3x - 1$

~~B~~ $4y = -12x + 4$ ← $y = -3x + 1$

C $-12x - 4y = -4$

D $12x - 4y = -4$

$-12x \quad -12x$

$\frac{-4y}{-4} = \frac{-12x-4}{-4}$

$y = 3x + 1$

Cumulative Information from Previous Tests!

16 Name each property!

a.) $x(y + z) = xy + xz$ Distributive ✓

b.) $(x + y) + z = x + (y + z)$ Associative of +

c.) $(x + y) + z = z + (x + y)$ Commutative of +

d.) $x + y = x + y$ Reflexive

e.) If $x + y = z$, then $z = x + y$ Symmetric

17 Evaluate $-x^2 - y^2$ when $x = -3$ and $y = -5$

$-(-3)^2 - (-5)^2$

$-9 - 25$

-34

18 Simplify $4(3x + 2) + 2(x + 5)$

$12x + 8 + 2x + 10$

$14x + 18$

19 Solve $3(x - 5) = 7x + 11$

$3x - 15 = 7x + 11$

$-3x \quad -3x$

$-15 = 4x + 11$

$-11 \quad -11$

$\frac{-26}{4} = \frac{4x}{4}$

$-\frac{26}{4} = -6.5 = x$

20 Solve the following equation for c

$a = \frac{1}{3}bc$

$3 \cdot a = \frac{1}{3}bc \cdot 3$

$\frac{3a}{b} = \frac{bc}{b}$

$\frac{3a}{b} = c$

21 Solve $-6x < x + 14$

$-x \quad -x$

$\frac{-7x}{-7} < \frac{14}{-7}$

$x > -2$