Write the following equation in Slope Intercept form:

$$4x + 9y = 27$$

Write the following equation in Standard form:

$$y = \frac{5}{3}x + \frac{1}{2}$$

$$4x + 9y = 27$$
$$-4x \qquad\qquad -4x$$
$$\frac{9y}{9} = \frac{27}{9} - \frac{4x}{9}$$
$$y = -\frac{4}{1}x + 3$$

$$y = \frac{5}{3}x + \frac{1}{2}$$
$$-\frac{5}{3}x \qquad -\frac{5}{3}x$$
$$-3\left[-\frac{5}{3}x + y = \frac{1}{2}\right]$$
$$2\left[5x - 3y = -\frac{3}{2}\right]$$
$$10x - 6y = -3$$

Could have also done:

$$-6\left[\frac{-5}{3}x + y = \frac{1}{2}\right]$$
$$10x - 6y = -3$$

Monday is the Midterm!

Homework Questions?

	Equation	x-intercept	y-intercept	Slope
9.	$4x - y = 2$	$(\frac{1}{2}, 0)$	$(0, -2)$	4
10.	$3x + y = 5$	$(\frac{5}{3}, 0)$	$(0, 5)$	-3
11.	$x - y = 7$	$(7, 0)$	$(0, -7)$	1
12.	$5x - y = -3$	$(-\frac{3}{5}, 0)$	$(0, 3)$	5
13.	$8x + y = -12$	$(-\frac{3}{2}, 0)$	$(0, -12)$	-8
14.	$9x + y = 5$	$(\frac{5}{9}, 0)$	$(0, 5)$	-9
15.	$y = -2x + 5$	$(\frac{5}{2}, 0)$	$(0, 5)$	-2
16.	$y = -2x - 3$	$(-\frac{3}{2}, 0)$	$(0, -3)$	-2
17.	$y = x - 4$	$(4, 0)$	$(0, -4)$	1
18.	$y = (-\frac{3}{4})x + 3$	$(4, 0)$	$(0, 3)$	$-\frac{3}{4}$
19.	$y = (\frac{7}{2})x - 8$	$(\frac{16}{7}, 0)$	$(0, -8)$	$\frac{7}{2}$
20.	$y = 0.2x - 11$	$(55, 0)$	$(0, -11)$	0.2

Make sure you have updated your work with the correct answers!

#10 $3x + y = 5$ x-int = value of x
                                              when y = 0

$3x + 0 = 5$

$\dfrac{3x}{3} = \dfrac{5}{3}$

$x = \dfrac{5}{3}$ $\left(\dfrac{5}{3}, 0\right)$

$y = -3x + 5$

$0 = -3x + 5$

$\dfrac{-5 \qquad\; -5}{}$

$\dfrac{-5}{-3} = \dfrac{-3x}{-3}$

$\dfrac{5}{3} = x$

Same

Write the equation in equivalent $Ax + By = C$ form. Then, identify the x-intercept, y-intercept, and slope.

9. $y = 4x - 2$ **10.** $y = -3x + 5$ **11.** $y = x - 7$

12. $y = 5x + 3$ **13.** $y = -8x - 12$ **14.** $y = -9x + 5$

For Exercises 15–20, write the equation in $y = mx + b$ form. Identify the x-intercept, y-intercept, and slope.

15. $-2x - y = -5$

16. $6x + 3y = -9$

17. $x - y = 4$

18. $3x + 4y = 12$

19. $-7x + 2y = -16$

20. $x - 5y = 55$

Vertical Non Permanent Surfaces

y = 1/3 x – 8

Find the slope, y-intercept, and
x-intercept

Develop a protocol for doing this
type of problem.

If equation is in Stope-Intercept form, how
to find slope, x-int, and y-int

y = 1/3 x – 8

slope   y-int

1. You can see slope and y-intercept
   in the equation.

$$Slope = \frac{1}{3}$$
$$y\text{-}int = (0, -8)$$

2. To find x-intercept, substitute
   0 in for y and solve for x.

y = 1/3 x – 8

$$0 = \frac{1}{3}x - 8$$
$$+8 \qquad +8$$
$$3\left(8 = \frac{1}{3}x\right)$$
$$24 = x$$

$$x\text{-}int : (24, 0)$$

When you multiply a number by its
reciprocal, the product = 1

$$5x + 4y = 24$$

Find the slope, y-intercept, and x-intercept

Develop a protocol for doing this type of problem.

2. Find x-intercept by substituting 0 in for y

$$x = \frac{24}{5}$$

How about using Standard Form (could be easier!)

(0)

Homework

Make sure Page 14, #'s 9-20 is complete, and correct.