

Where you sit today will be your seating chart! (no back row)

...until I am forced to change it by your craziness....which could very well be today...or next time....we'll see.

Aug 26-7:53 AM

$$39) \quad \begin{array}{r} 2 \leq x + 6 < 9 \\ -6 \quad \quad -6 \quad -6 \\ \hline -4 \leq x < 3 \end{array}$$



$$1) \quad 2x^2 + 5x = 3$$

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

$$\begin{array}{r} 18 - 15 = 3 \\ 3 = 3 \checkmark \end{array}$$

$$a) -3$$

~~$$b) -\frac{1}{2}$$~~

~~$$c) \frac{1}{2}$$~~

$$2\left(-\frac{1}{2}\right)^2 + 5\left(-\frac{1}{2}\right) = 3$$

$$\frac{1}{2} - \frac{5}{2} = 3$$

$$-2 \neq 3$$

Aug 26-9:04 AM

## P. 4 Linear Functions

Objectives: 4) I can find the slope between two points.

5) I can write a linear equation given a point and slope.

6) I can write a linear equation given two points.

Aug 3-2:03 PM

### Equations of Lines (Pg. 34 in book)

1) Point-slope form:  $y - y_1 = m(x - x_1)$

2) Slope-intercept form:  $y = mx + b$

3) General Form:  $Ax + By + C = 0$

4) Vertical Line:  $x = a$

5) Horizontal Line:  $y = b$

Equation for slope:  $m = \frac{y_2 - y_1}{x_2 - x_1}$

Aug 27-11:07 PM

Write the *point-slope* form equation for the given point and slope.

$(-3, 4)$  and  $m = 3$

$$y - y_1 = m(x - x_1)$$

$$\rightarrow y - 4 = 3(x + 3)$$

Write the *slope-intercept* form equation for the given point and slope.

~~$(2, -2)$  and  $m = 2$~~

$$y = mx + b$$

$$y - 4 = 3x + 9$$

$$\rightarrow y = 3x + 13$$

General Form:

$$Ax + By + C = 0$$

$$\rightarrow 0 = 3x - y + 13$$

Aug 27-11:10 PM

Write the *slope-intercept* form equation for points given.

$(1, -3)$  and  $(-2, 6)$

Write the *general form* equation for the given two points.

$(0, -2)$  and  $(-1, 4)$

Aug 3-2:08 PM

Find the value for  $x$  so that the line through the pair of points has the given slope.

Pt. 1 (2,  $x$ )

Pt. 2 (-1, -2)

$m = 2$

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

$$2 = \frac{-2 - x}{-1 - 2}$$

$$-3 \cdot 2 = \frac{-2 - x}{-3} \cdot \cancel{-3}$$

$$-6 = -2 - x$$

$$x = 4$$

Aug 26-6:51 AM

Find the *slope-intercept* equation for the line.

$$\cancel{3x} - 4y = 11$$

$$y = mx + b$$

$$\cancel{-4y} = \frac{-3x}{-4} + \frac{11}{-4}$$

$$y = \frac{3}{4}x - \frac{11}{4}$$

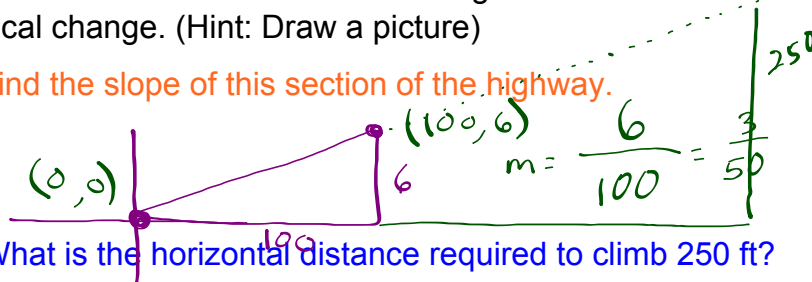
$$y = \frac{3x - 11}{4}$$

Aug 3-2:09 PM

### Grade of a Highway (GROUP WORK)

I-70 west of Denver has a section posted as a 6% grade. This means that for a horizontal change of 100 ft there is a 6 ft vertical change. (Hint: Draw a picture)

a) Find the slope of this section of the highway.



b) What is the horizontal distance required to climb 250 ft?

$$y = mx + b \quad 250 = \frac{3}{50}x \quad x = 4166.7 \text{ ft}$$

$$y = \frac{3}{50}x$$

c) A sign along the highway says 6% grade for the next 7 miles. Estimate how many feet of vertical change there are over the 7 miles. (5280 ft = 1 mile)

$$y = \frac{3}{50} (36,960) \quad y = 2217.6 \text{ ft.}$$

Aug 3-2:30 PM