

BE-1A MONDAY 4-7-08

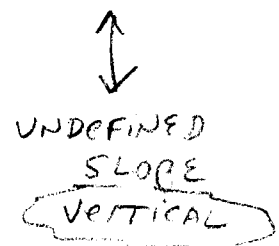
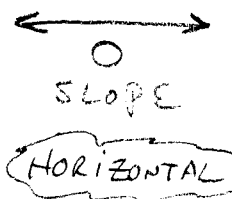
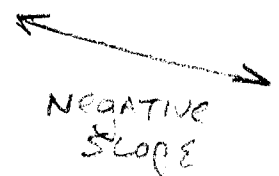
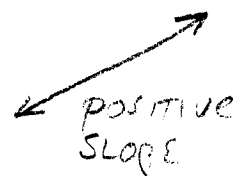
- Do problems # 1 to 6 on Page 308. of your textbook. Write out complete sentences for each problem; look up any answers you don't know. Individual work!
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- Q4 Exam 1 will be Thursday (4-10-08) over Chapter 5. We will review Ch. 5 this week. Some "equation solving" from Ch. 3 will be included.
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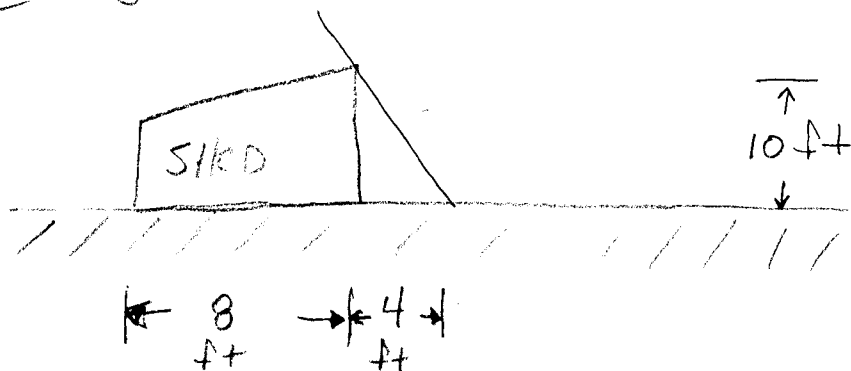
Review - Ch 5-1 Slope

$$M = \text{SLOPE} = \frac{\text{RISE}}{\text{RUN}}$$

Slope is a number, it is a measure of how "steep" a line is. It goes from 0 to undefined.



What is the slope of this ladder leaning against the 10 ft. tall shed?



If your line is on an X-Y coordinate plane, and you know the X-Y coordinates of two points on the line, you can use the "slope formula":

Let the X-Y coordinates of Point 1 be (x_1, y_1)

Let the X-Y coordinates of Point 2 be (x_2, y_2)

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

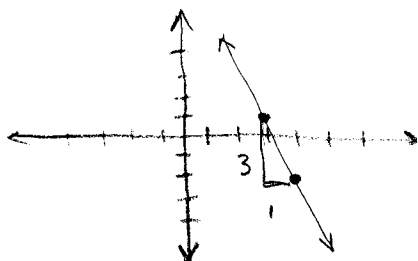
Memory } $(x_1, y_1), (x_2, y_2)$
Aid }

EX) Find m through $(4, -2), (3, 1)$

$(4, -2), (3, 1)$

$$m = \frac{1 - (-2)}{3 - 4} = \frac{1 + 2}{-1} = \frac{3}{-1} = \boxed{-3 = m}$$

CK



Ch 5-3 & 5-5

3 Forms of a *Linear Equation:

* AN EQUATION WITH ONLY x , y , and numbers separated by $+$ or $-$.

Standard Form: $Ax + By = C$

Slope - Intercept Form: $y = \underset{\substack{\uparrow \\ \text{slope}}}{m}x + \underset{\substack{\uparrow \\ \text{the } y \\ \text{intercept}}}{b}$

Point - Slope Form: $y - y_1 = \underset{\substack{\uparrow \\ \text{slope}}}{m}(x - x_1)$
 KNOW POINT ON LINE (x_1, y_1)

- Best use of each form?
- Change from one form to another?

Ch-5-2 "Direct Variations"

$$b = 0 \quad \text{so} \quad y = mx$$

$$\text{or} \quad y = kx$$

↑

CONSTANT OF VARIATION
(same as slope)

EX) Suppose y varies directly as x ,
and $y = -24$ when $x = 8$. Write a
DVE that relates x and y .

What you know: $y = mx$
 $(8, -24)$
 x, y

$$\text{Find } m \Rightarrow \frac{-24}{8} = \frac{m \cdot 8}{8}$$

$$-3 = m$$

$$(b = 0)$$

$$y = mx + b$$

$$y = -3x + 0$$

$$\boxed{y = -3x}$$

FIND x when $y = 12$

$$12 = -3x$$

$$\therefore \boxed{x = -4}$$

Ch 5-4 Writing Eq. in S-I Form

EX) Find EOL through $(-2, -3), (2, -1)$

Find $m \Rightarrow (-2, -3), (2, -1)$

$$\frac{-1+3}{2+2} = \frac{2}{4} = \frac{1}{2} = m$$

" $y = mx + b$ twice"

use $(2, -1)$ $m = \frac{1}{2}$
 x, y

$$-1 = \frac{1}{2} \cdot 2 + b$$

$$-1 = 1 + b$$

$$-1 \quad -1$$

$$-2 = b$$

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

graph?

Point-Slope Method

use $(2, -1)$, $m = \frac{1}{2}$
 x, y

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

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

If needed, put in S-I Form

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

$$-1 \quad -1$$

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

✓

Ch 5-6 $\Rightarrow$ // lines have SAME SLOPE

$\perp$ lines have slopes that
are negative RECIPROCAL
(opposite signs)

Ch 5-7 $\Rightarrow$ Scatter Plots and Best-Fit Lines

(Ch 5 Study Guide)

Homework: Pg 308 - 312 Read Concept Summaries

Pg 308 - 312 # 7, 8, 9, 17, 19,

25, 34, 42, 46, 52.
