

BE-1B THURSDAY 9-27-07

- ① Find the slope of the line through $(3, 2)$, $(1, -2)$.
How can you check your answer to see if it is reasonable?
- ② Find the EOL for a line with a slope of $-\frac{2}{3}$ that passes through the point $(2, -2)$.
- ③ Find the EOL through $(2, 5)$, $(4, 6)$

Homework Review Pg 284 #13-15, 21-23.

ANSGE WB ~

① Pg 52 # 3	{	③ Pg 63 # 3
② Pg 58 # 3		

1.
Ch. 5.5 Point-Slope Form of a
LINEAR EQUATION

$Ax + By = C$	→ STANDARD FORM
$y = \underline{mx} + \underline{b}$	→ SLOPE-INTERCEPT FORM

↑ ↑
SLOPE y-intercept

BASIC FORMS ⇒ UNIQUE FOR EACH LINE

SPECIAL FORM → POINT-SLOPE FORM

$y - y_1 = \underline{m}(x - x_1)$

↑
SLOPE

NOT UNIQUE
for each line

(x_1, y_1)

KNOWN POINT ON THE LINE

* CAN CONVERT BETWEEN ALL 3 FORMS

If you know a point and a slope,
you can write the P-S form easily.
ex) $m = 6$ through $(1, 3)$

$$y - 3 = 6(x - 1)$$

Ex) Find the EOL's in
POINT - SLOPE Form

① $(5, -1), m = 3$

$$y + 1 = 3(x - 5)$$

② $(-2, 6) \quad m = -4$

$$y - 6 = -4(x + 2)$$

The point-slope form will change every time you pick a different point to use with the slope.

But, if you change them to Slope-Intercept or Standard you will Always get a unique form.

Ex) points $(1, 3)$ and $(2, 5)$ are on a line with slope = 2. Write 2 point-slope forms and convert them to S-I form to show they are the same line

P-S $(1, 3) m = 2$ $y - 3 = 2(x - 1)$ $y - 3 = 2x - 2$ $y = 2x + 1$ ✓	}	$(2, 5) m = 2$ $y - 5 = 2(x - 2)$ P-S $y - 5 = 2x - 4$ $y = 2x + 1$ ✓
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