

: Pg 281-282 : 1-7, 14, 19, 24, 25,
35, 37, 39, 40, 41, 42

① $y - y_1 = m(x - x_1)$
② $y + 1 = 3(x - 2)$
③ $y - 4 = 4(x - 3)$
④ $y + 7 = -2(x + 5)$
⑤ $y - 4 = \frac{1}{2}(x - 3)$
⑥ $y + 5 = \frac{2}{3}(x - 1)$
⑦ $y - 2 = 3(x - 2)$
⑧ $y + 4 = -(x - 4)$

②④ $y - 3 = -6(x + 4)$
②⑤ $y - 4 = 6(x + 3)$
③⑤ $y = 2x - 2$
③⑦ $y = \frac{1}{3}x - \frac{8}{3}$
③⑨ $y = -9x - 5$
④⑩ $y = \frac{1}{2}x - 14$
④⑪ $y = 2x - 1$
④⑫ $y = \frac{2}{3}x + 1$

42

(3, 3)

from the other Graph

$$m = \frac{2}{3}$$

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

5.3 Writing Linear Equations w/ 2 Points

Dec. 04, 2006

tell Me about Slope

$$m = \text{slope} = \frac{\text{rise}}{\text{run}} = \frac{\text{change in } y}{\text{change in } x} = \frac{y_2 - y_1}{x_2 - x_1}$$

Write the eq. of the line in $y = mx + b$ S-I form. Slope-Intercept that passes through $(-4, 5)$ and $(0, 2)$

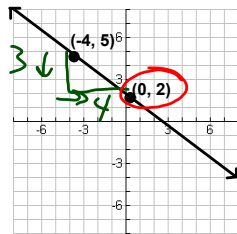
Need the Slope $-\frac{3}{4}$

Need the y-int. 2

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{2 - 5}{0 - (-4)} = \frac{-3}{4}$$

sometimes you get these both, sometimes you do not!

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



$$y - 5 = -\frac{3}{4}(x - (-4))$$

$$y - 5 = -\frac{3}{4}(x + 4)$$

$$y - 5 = -\frac{3}{4}x - 3$$

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

$$y - 2 = -\frac{3}{4}(x - 0)$$

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

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

Write in S-I form the equ. Passing through

$(3, -5)$, $(7, 0)$
 (x_1, y_1) , (x_2, y_2)

our process

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

$$y = mx + b$$

2 Pts \rightarrow slope \rightarrow Pt-Slope form \rightarrow Slope-Int form

$$m = \text{slope} = \frac{\text{rise}}{\text{run}} = \frac{\text{change in } y}{\text{change in } x} = \frac{y_2 - y_1}{x_2 - x_1}$$

$$m = \frac{0 - (-5)}{7 - 3} = \frac{5}{4}$$

$$\frac{5}{4} \cdot \frac{7}{1} = \frac{35}{4}$$

$$y - 0 = \frac{5}{4}(x - 7)$$

$$y = \frac{5}{4}x - \frac{35}{4}$$

$$y - 5 = \frac{5}{4}(x - 3)$$

$$y + 5 = \frac{5}{4}x - \frac{15}{4} - \frac{20}{4}$$

Recall. to
Add or Subt
Fractions they
Both must
have the Same
Denom.

$$y = \frac{5}{4}x - \frac{35}{4}$$

$$5 = \frac{5}{1} = \frac{20}{4}$$

S-I form : $(0, 2)$, $(4, -2)$
 (x_1, y_1) , (x_2, y_2)

$$m = \text{slope} = \frac{\text{rise}}{\text{run}} = \frac{\text{change in } y}{\text{change in } x} = \frac{y_2 - y_1}{x_2 - x_1}$$

$$m = \frac{-2 - 2}{4 - 0} = \frac{-4}{4} = \underline{\underline{-1}}$$

$$y\text{-int.} = 2$$

$$y = mx + b$$

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

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

$$y - 2 = -1(x - 0)$$

$$y - 2 = -1x$$

$$\begin{array}{r} +2 \\ \hline y = -1x + 2 \end{array}$$

S-I form: $(3, -1)$, $(4, 2)$
 (x_1, y_1) , (x_2, y_2)

2 Pts \Rightarrow Slope \rightarrow Pt-Slope \rightarrow Slope-Int.

$$m = \text{slope} = \frac{\text{rise}}{\text{run}} = \frac{\text{change in } y}{\text{change in } x} = \frac{y_2 - y_1}{x_2 - x_1} =$$

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

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

$$y - 2 = 3(x - 4)$$

$$y - 2 = 3x - 12$$

$$\begin{array}{r} +2 \qquad +2 \\ \hline \end{array}$$

$$\underline{\underline{y = 3x - 10}}$$

$$\begin{array}{r} y - (-1) = 3(x - 3) \\ y + 1 = 3x - 9 \\ \quad \quad \quad -1 \\ \hline y = 3x - 10 \\ \hline \hline \end{array}$$

○ T.L.

① Write Summary Box on
Pg 287 in Notes

② Pg 288-289: 1-8(u), 10, 12, 16,
17, 23, 33-36(u)

③ if not already have
wk. sts. 5.3 + 5.4
1-12 Both sides only
done!

Quiz Tomorrow...

Write the eqn. of a line when I give you...

- Slope + y-int (S-I.F.)

- Graph (S-I.F.)

- Pt. + m (P.S.F.)

- Pt + m (S-I.F.)

- Parallel eqn. + Pt (S-I.F.)