

4.7 cont.

Nov.17, 2006

Parallel Lines: different Lines in the Same Plane that Never intersect.

Line A

$$\begin{array}{r} -x + 2y = 6 \\ +x \quad +x \\ \hline 2y = x + 6 \\ \frac{2y}{2} = \frac{x}{2} + \frac{6}{2} \end{array}$$

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

$$y = mx + b$$

$$m = \text{slope} = \frac{\text{rise}}{\text{run}} = \frac{1}{2}$$

$$b = y\text{-int.} = 3 \Rightarrow (0, 3)$$

Line B

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

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

$$y = mx + b$$

$$m = \text{slope} = \frac{\text{rise}}{\text{run}} = \frac{1}{2}$$

$$b = y\text{-int.} = -1 \Rightarrow (0, -1)$$

Line C

$$\begin{array}{r} x + 2y = 4 \\ -x \quad -x \\ \hline 2y = -x + 4 \\ \frac{2y}{2} = \frac{-x}{2} + \frac{4}{2} \end{array}$$

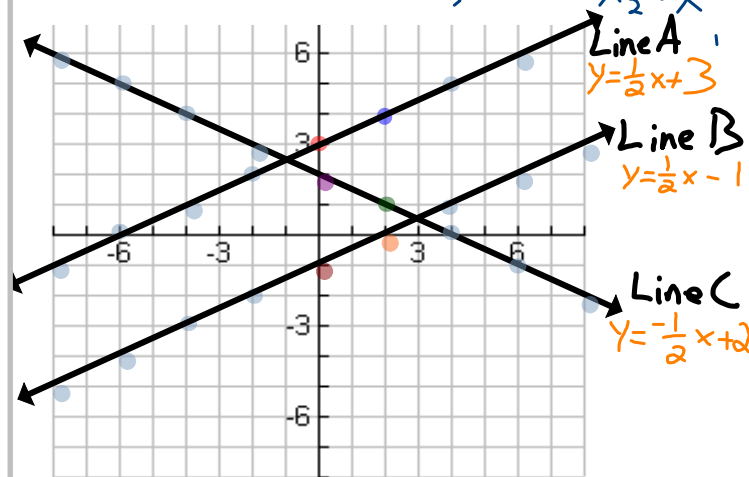
$$y = -\frac{1}{2}x + 2$$

$$y = mx + b$$

$$m = \text{slope} = \frac{\text{rise}}{\text{run}} = -\frac{1}{2}$$


$$b = y\text{-int.} = 2 \Rightarrow (0, 2)$$

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



Which are Parallel?

Lines A + Line B

Why? Because they  
have the same slope of  $\frac{1}{2}$  +  
different y-int. + they  
are on the same Plane! 

O.T.L.

① pg 246: 1-10 (all)  
11, 12, 14, 15, 35, 37, 39, 41

Same  
Coord. Plane.

① Correct the above.

② 43-45 (all); 49-52 (all)

# Review Packet