

4.7 cont.

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Parallel Lines: different lines in the same plane that never intersect.

Line A

$$\begin{aligned}
 -x + 2y &= 6 \\
 +x & \quad +x \\
 \hline
 2y &= x + 6 \\
 \frac{2y}{2} &= \frac{x}{2} + \frac{6}{2} \\
 y &= \frac{1}{2}x + 3 \\
 y &= mx + b \\
 m = \text{slope} = \frac{\text{rise}}{\text{run}} &= \frac{1}{2} \\
 \text{Up 1} & \quad \text{Rt 2} \\
 b = y\text{-int.} &= 3 \Rightarrow (0, 3)
 \end{aligned}$$

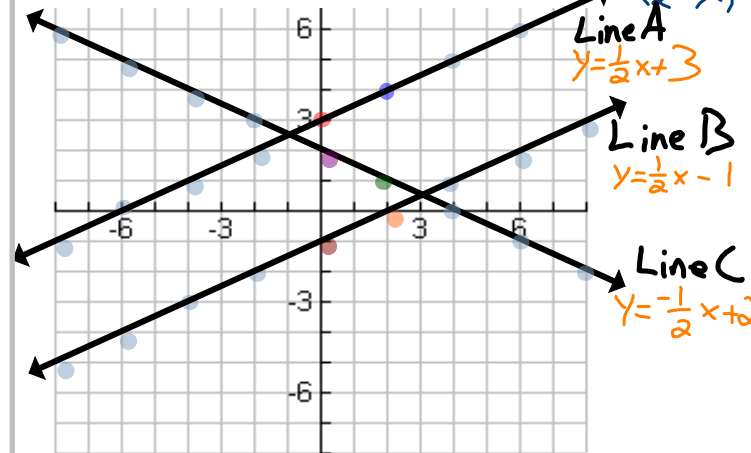
Line B

$$\begin{aligned}
 -x + 2y &= -2 \\
 +x & \quad +x \\
 \hline
 2y &= x - 2 \\
 \frac{2y}{2} &= \frac{x}{2} - \frac{2}{2} \\
 y &= \frac{1}{2}x - 1 \\
 y &= mx + b \\
 m = \text{slope} = \frac{\text{rise}}{\text{run}} &= \frac{1}{2} \\
 \text{Up 1} & \quad \text{Rt 2} \\
 b = y\text{-int.} &= -1 \Rightarrow (0, -1)
 \end{aligned}$$

Line C


$$\begin{aligned}
 x + 2y &= 4 \\
 -x & \quad -x \\
 \hline
 2y &= -x + 4 \\
 \frac{2y}{2} &= \frac{-x}{2} + \frac{4}{2} \\
 y &= -\frac{1}{2}x + 2 \\
 y &= mx + b \\
 m = \text{slope} = \frac{\text{rise}}{\text{run}} &= \frac{-1}{2} \\
 \text{Down 1} & \quad \text{Rt 2} \\
 b = y\text{-int.} &= 2 \Rightarrow (0, 2)
 \end{aligned}$$

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



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