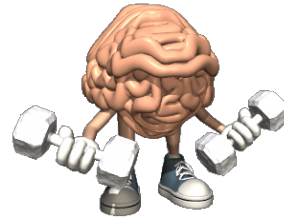
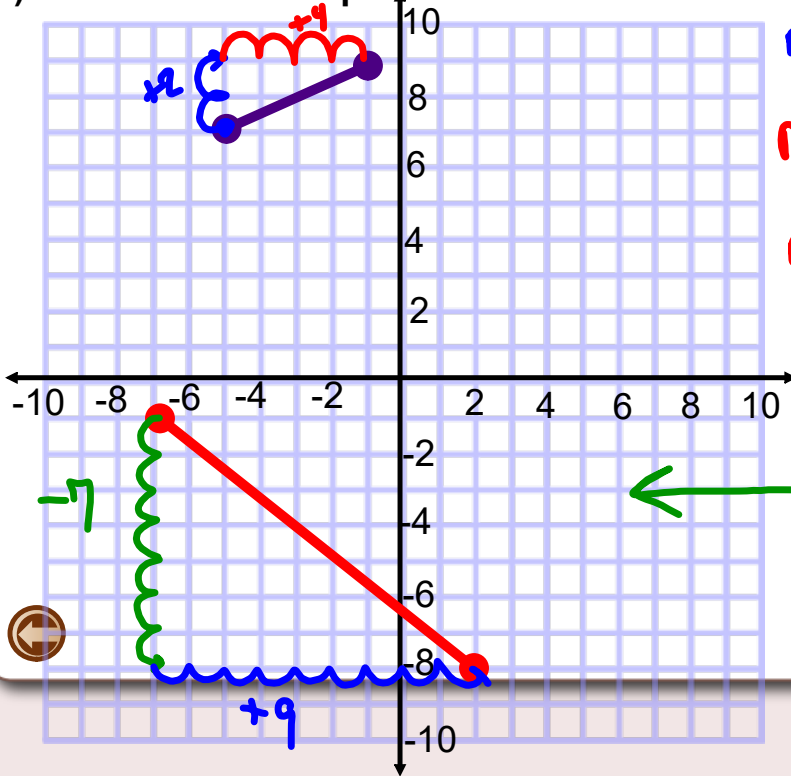


# Warm Up



1) Determine the slope of each line



$$m = \frac{\text{rise}}{\text{run}}$$

$$m = \frac{2}{3} \text{ always Reduce fractions}$$

$$m = \frac{1}{2}$$

$$m = \frac{\text{rise}}{\text{run}} = \frac{-7}{9}$$



Calculate the slope.

1.  $(3,5)$   $(2,8)$

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

$$= \frac{(8) - (5)}{(2) - (3)}$$

$$= \frac{3}{-1}$$

2.  $(-9,-2)$   $(7,3)$

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

$$= \frac{(3) - (-2)}{(7) - (-9)}$$

$$= \frac{3 + 2}{7 + 9}$$

$$= \frac{5}{16}$$

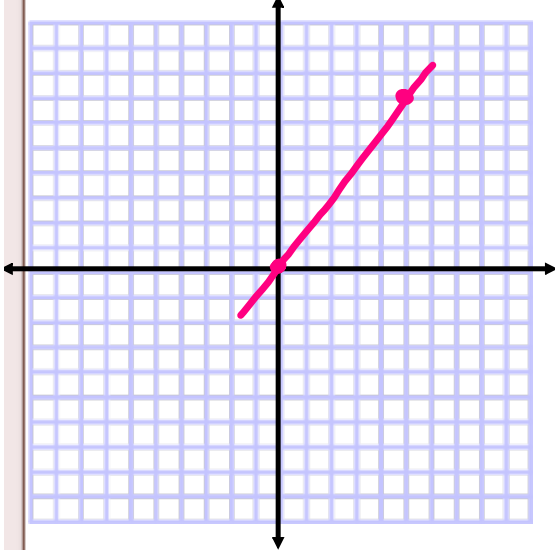
Watch signs

Tidy up signs

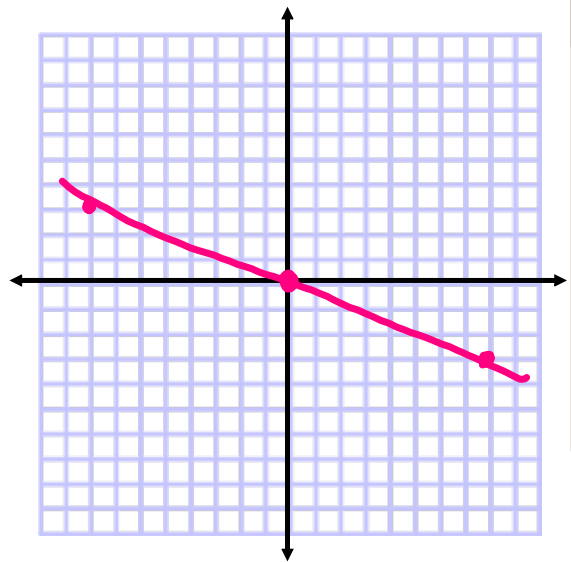
**Example 2** Drawing a Line Segment with a Given Slope

Draw a line segment with each given slope.

a)  $\frac{7}{5}$  *rise*  
*run*



b)  $-\frac{3}{8}$



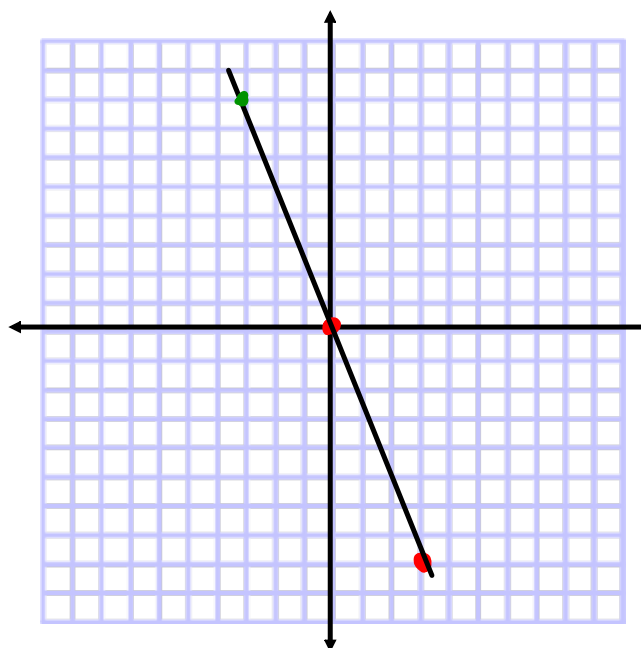
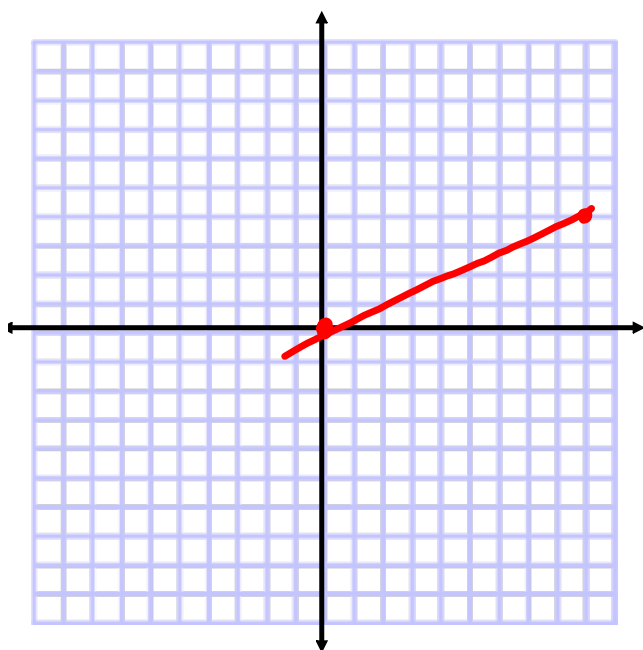
2. Draw a line segment with each slope.

a)  $\frac{4}{9}$  *rise*  
*run*

b)  $-\frac{8}{3}$

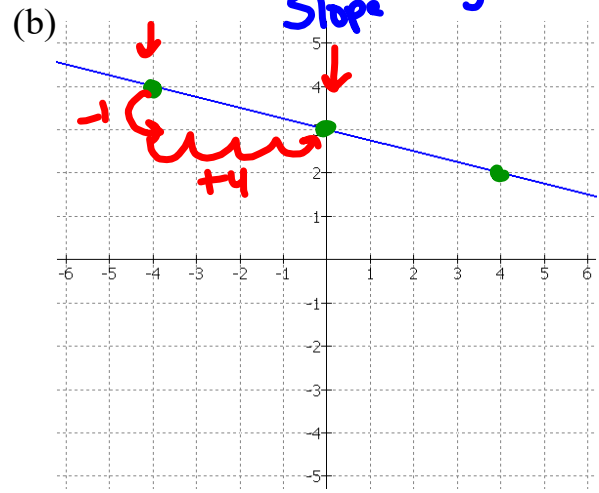
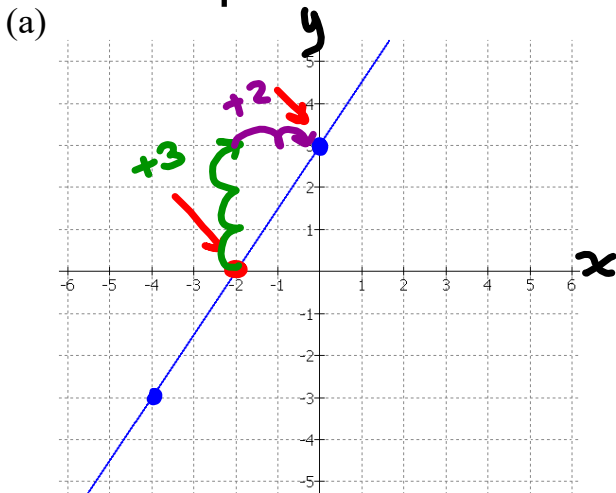


$-\frac{8}{3}$  or  $\frac{8}{-3}$



Determine the slope of each of the following lines:  
Find Equation of line

$y = mx + b$   
 ↓ Slope  
 y-int



Which ordered pairs should we use to make our calculation?

$slope = \frac{\Delta y}{\Delta x}$   $\frac{\text{rise}}{\text{run}} = \frac{3}{2} \leftarrow m$

$m = slope = \frac{\Delta y}{\Delta x}$   $\frac{\text{rise}}{\text{run}} = \frac{-1}{4}$

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

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

y-intercept = 3  $\leftarrow b$   
 $y = mx + b$   
 $y = \frac{3}{2}x + 3$

$b = \text{yint} = 3$

$y = mx + b$

$y = \frac{-1}{4}x + 3$

Given Slope find rise or run

1) If  $m = -3$  and the  $run = 5$  what would the rise equal to?

$$m = \frac{\text{rise}}{\text{run}}$$

$$-3 = \frac{\text{rise}}{5}$$

$$5 \times -3 = \frac{\text{rise}}{5} \times 5$$

$$\boxed{-15 = \text{rise}}$$

2) If  $m = 8$  and the rise = 24, what would the run equal to?

$$m = \frac{\text{rise}}{\text{run}}$$

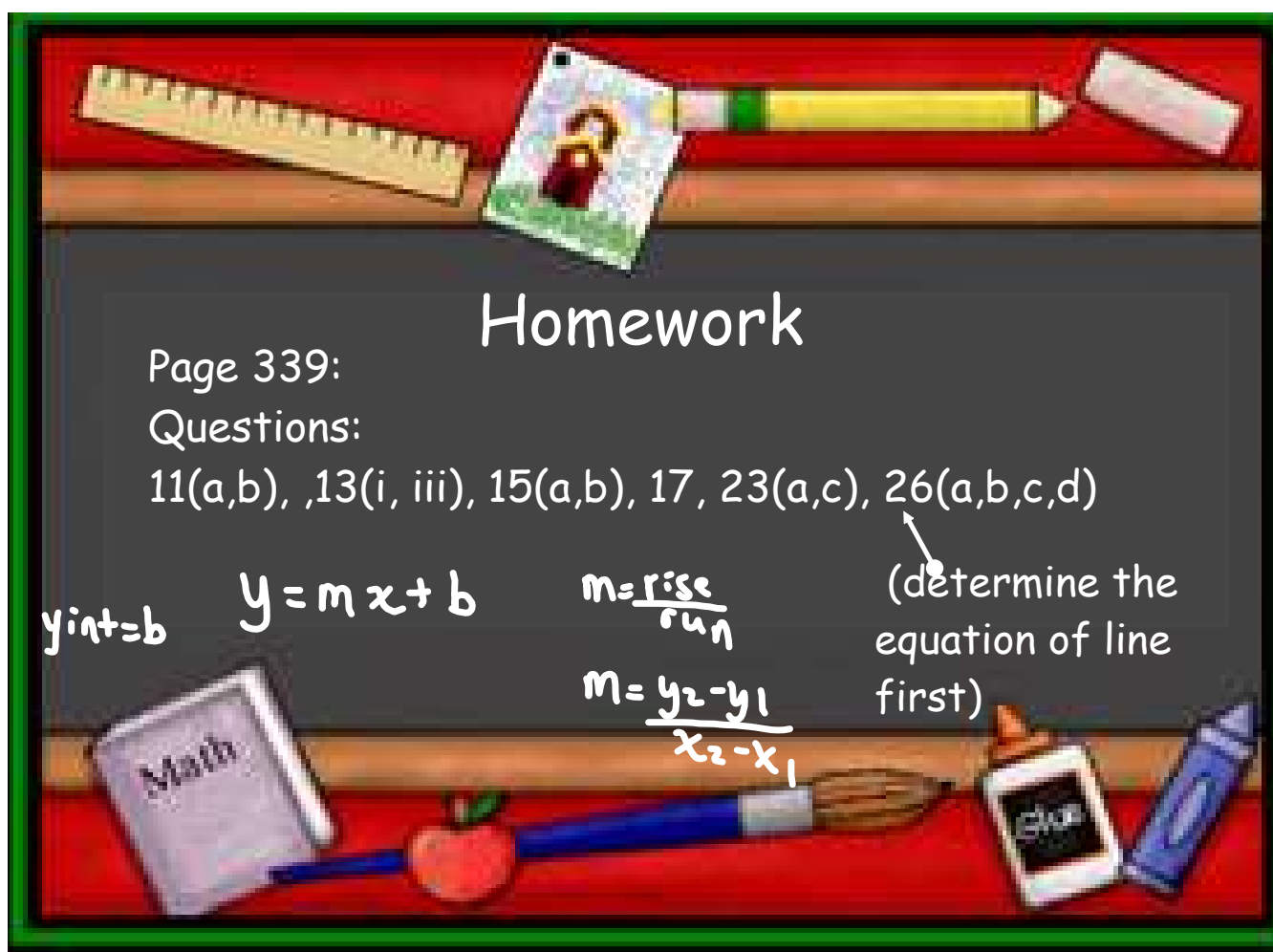
$$8 = \frac{24}{\text{run}}$$

$$\text{run} \times 8 = \frac{24}{\text{run}} \times \text{run}$$

$$8\text{run} = 24$$

$$\frac{8\text{run}}{8} = \frac{24}{8}$$

$$\boxed{\text{run} = 3}$$



Homework

Page 339:  
Questions:  
11(a,b), 13(i, iii), 15(a,b), 17, 23(a,c), 26(a,b,c,d)

$y \text{ int} = b$        $y = mx + b$        $m = \frac{\text{rise}}{\text{run}}$       (determine the equation of line first)

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

The illustration features a red chalkboard with a wooden ledge. On the ledge are a yellow ruler, a yellow pencil, a pink eraser, a small photo of a girl, a blue pencil, a red apple, a blue pencil, a white glue stick, and a blue crayon. A book titled 'Math' is on the left. The text is written in white on the chalkboard.