

Given:  
Slope &  
y-intercept

---

Given:  
A Graph

---

Given:  
A Point &  
the Slope

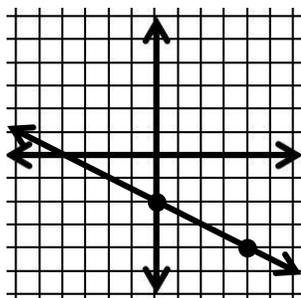
---

Given:  
Two Points  
(that the line passes through)

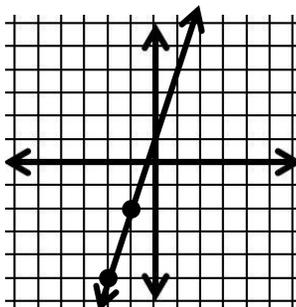
① Write an equation of the line with a slope of 5 and a y-intercept of -3

② Write an equation of the line with a slope of  $\frac{-2}{3}$  and a y-intercept of 4.

③ Write an equation of the line shown.



④ Write an equation of the line shown.



⑤ Write an equation of the line that passes through  $(-1, 3)$  and has a slope of -4.

⑥ Write an equation of the line that passes through  $(8, -4)$  and has a slope of  $-\frac{3}{4}$ .

⑦ Write an equation of the line that passes through  $(-2, 5)$  and  $(2, -1)$ .

⑧ Write an equation for a linear function that has the given values.  
 $f(4) = 9$  and  $f(-4) = -7$

# Answer Key!

Given:  
Slope &  
y-intercept

Given:  
A Graph

Given:  
A Point &  
the Slope

Given:  
Two Points  
(that the line passes through)

① Write an equation of the line with a slope of 5 and a y-intercept of -3

$$m = 5 \quad b = -3$$

$$y = mx + b$$

$$y = 5x - 3$$

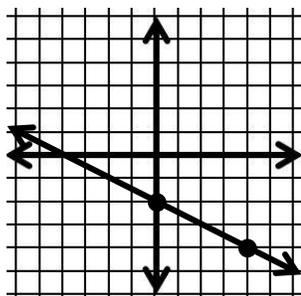
② Write an equation of the line with a slope of  $\frac{-2}{3}$  and a y-intercept of 4.

$$m = \frac{-2}{3} \quad b = 4$$

$$y = mx + b$$

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

③ Write an equation of the line shown.



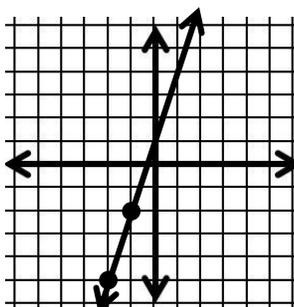
$$m = \frac{\text{rise}}{\text{run}} = \frac{-2}{4} = \frac{-1}{2}$$

$$b = -2$$

$$y = mx + b$$

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

④ Write an equation of the line shown.



$$m = \frac{\text{rise}}{\text{run}} = \frac{3}{1} = 3$$

$$b = 1$$

$$y = mx + b$$

$$y = 3x + 1$$

⑤ Write an equation of the line that passes through (-1, 3) and has a slope of -4.

$$y = mx + b$$

$$3 = -4(-1) + b$$

$$3 = 4 + b$$

$$-4 \quad -4$$

$$-1 = b$$

$$y = mx + b$$

$$y = -4x - 1$$

⑥ Write an equation of the line that passes through (8, -4) and has a slope of  $-\frac{3}{4}$ .

$$y = mx + b$$

$$-4 = \frac{-3}{4}(8) + b$$

$$-4 = -6 + b$$

$$+6 \quad +6$$

$$2 = b$$

$$y = mx + b$$

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

⑦ Write an equation of the line that passes through (-2, 5) and (2, -1).

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-1 - 5}{2 - (-2)} = \frac{-6}{4} = \frac{-3}{2}$$

$$y = mx + b$$

$$5 = \left(\frac{-3}{2}\right)(-2) + b$$

$$5 = 3 + b$$

$$2 = b$$

$$y = mx + b$$

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

⑧ Write an equation for a linear function that has the given values  $f(4) = 9$  and  $f(-4) = -7$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-7 - 9}{-4 - 4} = \frac{-16}{-8} = \frac{-16}{-8} = 2$$

$$y = mx + b$$

$$9 = 2(4) + b$$

$$9 = 8 + b \quad b = 1$$

$$f(x) = mx + b$$

$$f(x) = 2x + 1$$

# © Lisa Davenport 2013

## Directions

Step 1: Print pages 1 & 2 front to back (flip along the long edge)

Step 2: Cut off the extra piece at the top of the page (along the solid line)

Step 3: Have students fold over the page so that the title "Writing Linear Equations in Slope-Intercept Form" is still visible.

Step 4: Have students cut along the dotted lines, creating four tabs.

The final product should look like this:

