

2-3 Slope-Intercept Form

SLOPE-INTERCEPT FORM:

$$y = m x + b$$

slope
(only the number)

y-intercept
(where graph crosses y-axis)

Identify the slope and y intercept:

$$y = 5x - 2 \quad \rightarrow \text{take the sign}$$
$$y = mX + b$$

$$m = 5$$

$$b = -2$$

Identify the slope and y intercept:

$$y = 2x + 6$$

$$m = 2$$

$$b = 6$$

Write an equation in slope intercept form:

Slope is $-\frac{4}{5}$ (m) y-intercept is 7 (b)

$$y = mx + b$$

$$y = \boxed{-\frac{4}{5}} x + \boxed{7}$$

$$y = -\frac{4}{5}x + 7$$

Write an equation in slope intercept form:

A.

$$y = 2x - 4$$

$$m = 2$$

$$b = -4$$

B. $m = -3$

$$b = -\frac{4}{3}$$

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

2-3 Pg. 23

#1-15 skip: 5, 9

$$5. \quad y = -5$$

$$m = 0$$

$$b = -5$$

$$14. \quad M=0 \quad b=-11$$

$$Y = \boxed{0} X + \boxed{-11}$$

$$Y = 0 - 11$$

$$\boxed{Y = -11}$$

Write an equation for two points:

Write an equation for
 $(2, 1)$ and $(5, -8)$
 x_1, y_1 and x_2, y_2

Step 1:
Find the slope

Step 1:

$$\frac{(-8) - (1)}{(5) - (2)}$$

$$\frac{-9}{3}$$

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

M

Step 2:
 - slope
 - (x_1, y_1)
 - slope intercept form
 to find b

$$m = -3$$

$$\left(\frac{2}{x}, \frac{1}{y}\right)$$

$$y = mx + b$$

$$(1) = (-3)(2) + b$$

$$1 = -6 + b$$

$$+6 \quad +6$$

$$\boxed{7 = b}$$

Step 3:
 - slope (m)
 - y-intercept (b)
 - slope-intercept form

$$m = -3$$

$$b = 7$$

$$y = mx + b$$

$$\boxed{y = -3x + 7}$$