

# GRAPHING USING $y = mx + b$

1. The perimeter of a rectangle is 42 cm. The length of the rectangle can be represented by  $(x + 4)$ , and its width can be represented by  $(2x - 7)$ . What are the dimensions of this rectangle in centimeters?

- A. Length = 10 and width = 11
- B. Length = 8 and width = 13
- C. Length = 6 and width = 15
- D. Length = 12 and width = 9

Output = (input) +

$$y = m x + b$$

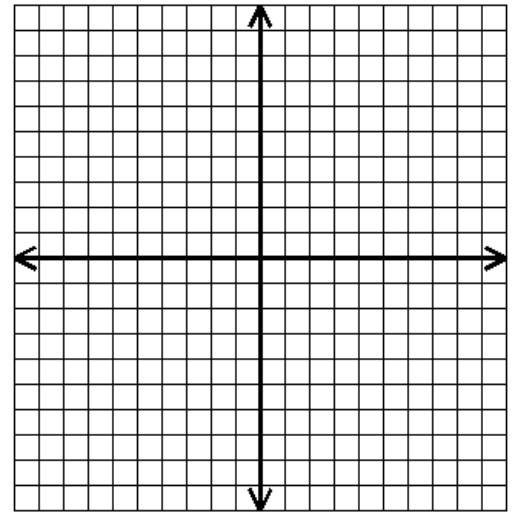
                  ↓                                  ↓  
                   slope                          y-intercept

### SLOPE INTERCEPT FORM:

#### **EXAMPLES:**

1) Graph the line:  $y = x$

$m =$  \_\_\_\_\_;  $b =$  \_\_\_\_\_



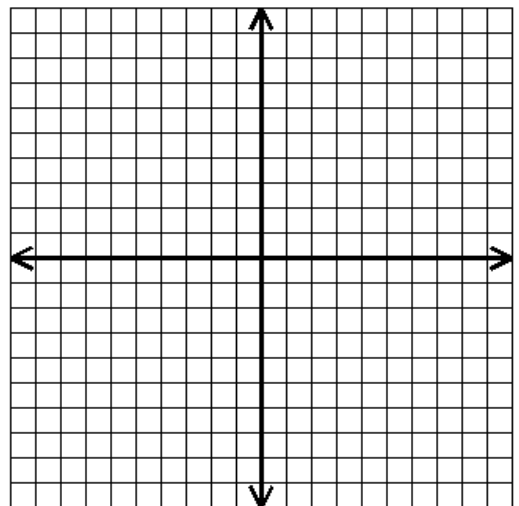
**IMPORTANT!!**

This is the most basic linear function, also known as the **LINEAR PARENT FUNCTION.**

2) Graph the line:  $y = -\frac{3}{2}x - 3$

$m =$  \_\_\_\_\_;  $b =$  \_\_\_\_\_

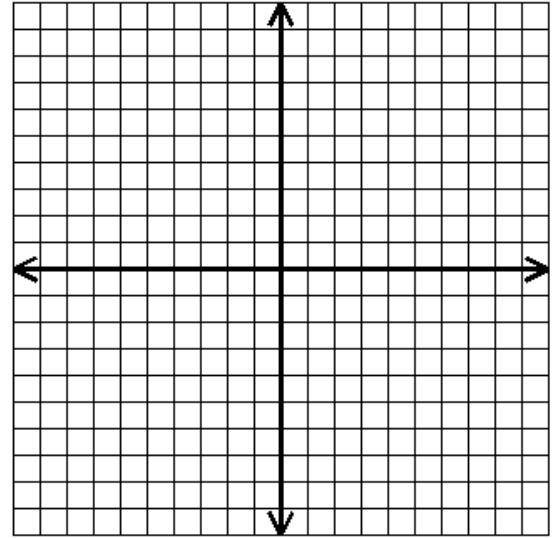
Circle: Increasing or Decreasing



3) Graph the line:  $y = -4x$

$m =$  \_\_\_\_\_;  $b =$  \_\_\_\_\_

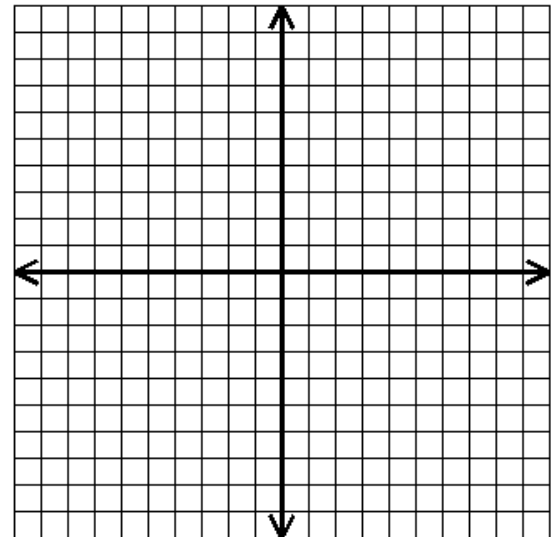
Circle: Increasing or Decreasing



4) Graph the line:  $y = 1.2x - 4$

$m =$  \_\_\_\_\_;  $b =$  \_\_\_\_\_

Circle: Increasing or Decreasing



5) Graph the line that contains the point (0, 6) has a slope of -3.

$m =$  \_\_\_\_\_;  $b =$  \_\_\_\_\_

Equation: \_\_\_\_\_

Circle: Increasing or Decreasing

