

# Show Me What Ya Got!- Intro to Math 2

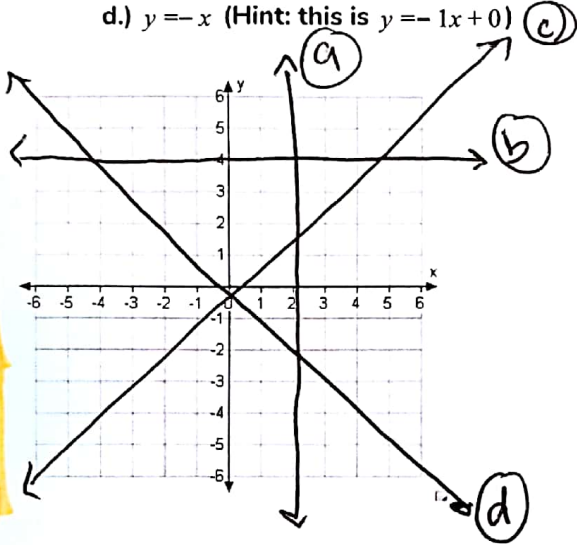
Name: \_\_\_\_\_

Date: \_\_\_\_\_ Period: \_\_\_\_\_

Some of the questions below are directly from math 1, and some of them are not! Be creative. If you do not know, that is okay! I want to see you try. No judgement will be coming to you from me! I would like to see that you somehow attempted every problem. This is just for me to look at!

## 1. Graph the following lines.

- $x = 2$
- $y = 4$
- $y = x$  (Hint: this is  $y = 1x + 0$ )
- $y = -x$  (Hint: this is  $y = -1x + 0$ )

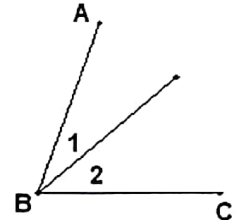


## 2. Angle Addition Postulate:

$$m\angle 1 = 7x - 2$$

$$m\angle 2 = 5x + 5$$

SIDE NOTE: m1 is the shortcut way of writing "the measure of angle 1." It's like math texting - you write LOL instead of "laughing out loud," math people write m1 instead of "the measure of angle 1."



- Using the three pieces of given information above, can you write an equation?
- Try to find the value of  $x$ . Use any method you can think of!  $x =$  \_\_\_\_\_

$$(7x - 2) + (5x + 5) = m\angle B$$

$$12x + 3 = m\angle B$$

$$x = \frac{m\angle B - 3}{12}$$

## 3. Solve the following system of equations, using any method (Hint: there are three different methods that you have learned in math 1 to solve a system of equations!). Show your work in the space below.

$$y = 6x + 5$$

$$y = -2x - 3$$

$$6x + 5 = -2x - 3$$

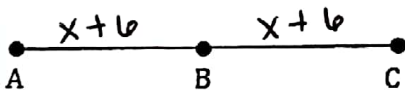
$$8x = -8$$

$$x = -1$$

$$y = 6(-1) + 5$$

$$y = -1$$

## 4. Let $\overline{AB} \cong \overline{BC}$ , $AC = 20$ , and $AB = x + 6$



\*This symbol,  $\cong$ , means congruent.

- What does "congruent" mean? equal in measurement
- If  $AB = x + 6$ , what can we say about  $BC$ ?  $BC = x + 6$
- Try to write an equation and solve for  $x$  using the diagram and three pieces of given information.

$$c) 2(x + 6) = 20$$

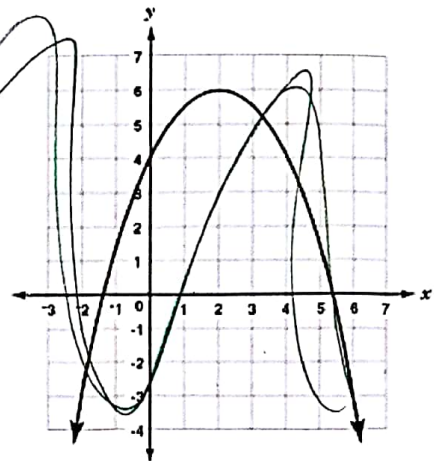
$$2x + 12 = 20$$

$$2x = 8$$

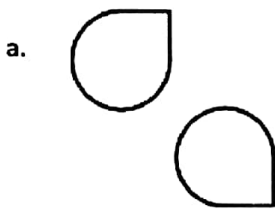
$$x = 4$$

## 5. Use the graph to the right to answer the following:

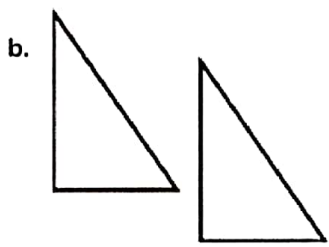
a. Where is the axis of symmetry? \_\_\_\_\_  
 b. On the graph, circle the "roots" or "zeroes".  
 c. Where is the y- intercept? \_\_\_\_\_  
 d. Where is the vertex located? \_\_\_\_\_



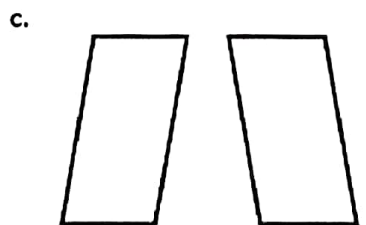
6. State the transformation performed on each of the following pairs of shapes.



Rotation



Translation



Reflection

7. Factor the quadratic expression  $x^2 - 7x - 18$  \*Hint: when factoring a quadratic trinomial, your answer should be in parenthesis like this: ( ) ( ).

$$(x-9)(x+2)$$

$$(x+a)(x+b)$$

$$x^2 + (a+b)x + (ba)$$

8.) Identify the slope of the line  $y = -9x + \frac{3}{2}$

slope = -9

$$y = mx + b$$

↑ slope      ↑ y-intercept

9. Given point A at (5, 5) and point B at (1, -3), what are the coordinates of the midpoint of segment  $\overline{AB}$ ?

$$\left(\frac{6}{2}, \frac{2}{2}\right) = (3, 1)$$

$$\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$$

10.) The exponential function  $y = 6(2)^x$  represents the size of a Rattata population after  $x$  months. How large will the population be after 2 years?

$$6(2)^x$$

x in months

$$2 \text{ years} = 24 \text{ months}$$

$$6(2)^{24} = 100663296$$