

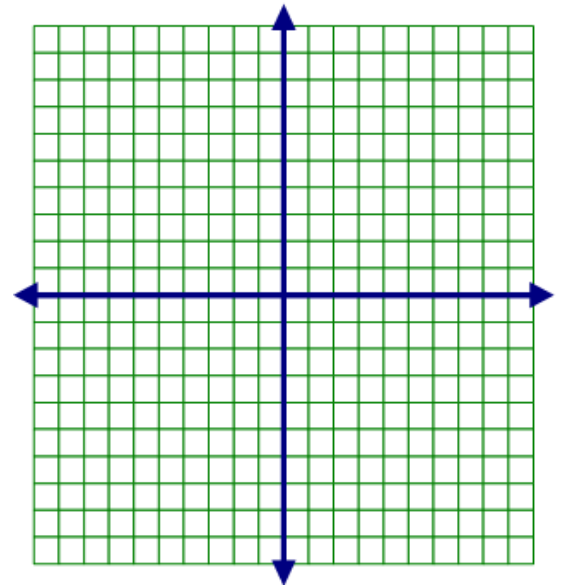
Name: _____

Date: _____

UNIT 6B

LESSON 17

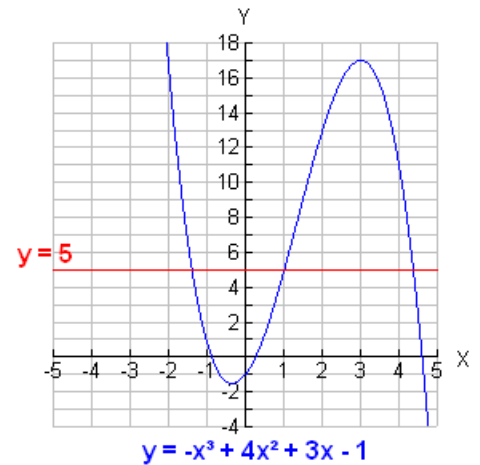
Do Now: Graph $f(x) = |x + 2| - 3$ $g(x) = \frac{1}{2}x + 1$



(b) When does $f(x) = g(x)$?

AIM: SOLVING FUNCTIONS GRAPHICALLY USING THE TRACE KEY ON CALC

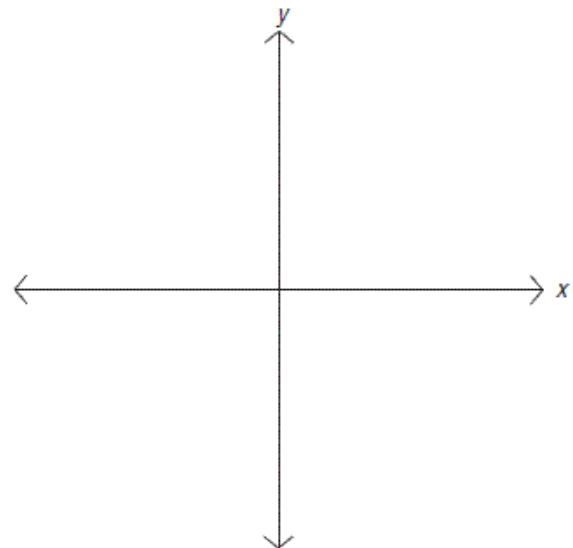
1. Given the graph below, identify the coordinates of the point or points where the graphs intersect, *to the nearest tenth*.



2. The flight paths of two Thunderbird jets are plotted on a Cartesian coordinate plane, and the equations of the flight paths are represented by $y = 2^x + 3$ and $y = 0.5^x$

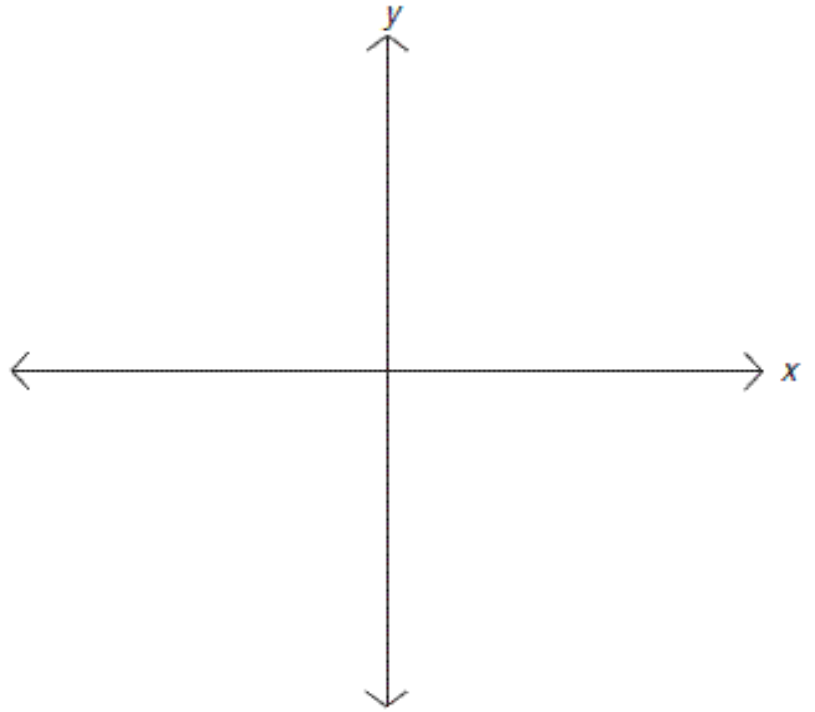
a. Sketch the path of both Thunderbird jets.

b. *To the nearest hundredth*, determine where the paths of the two Thunderbirds jets will intersect.



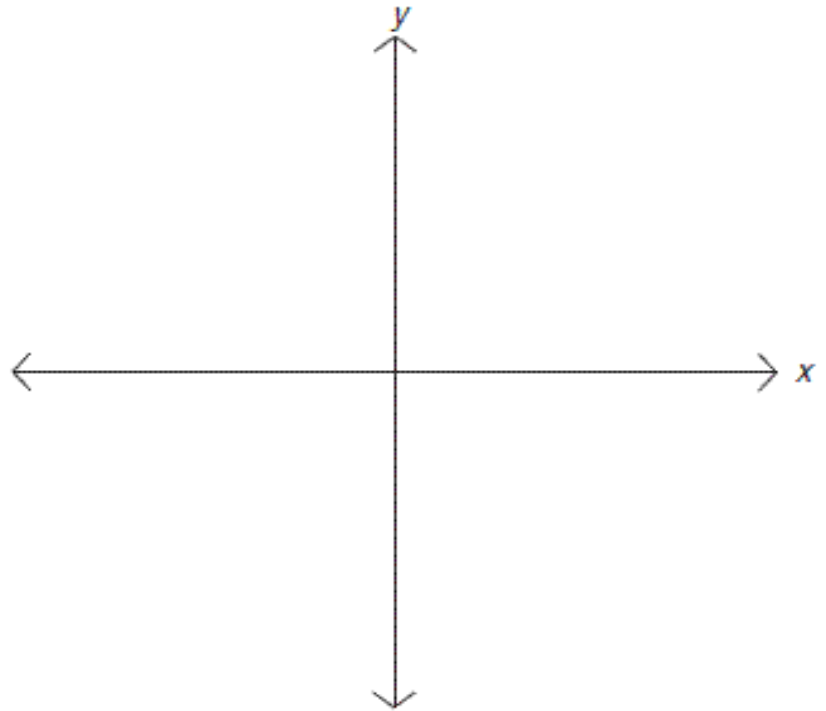
3. Given: $2(1.5)^x = 2 + 1.5x$

- Sketch both equations.
- To the nearest hundredth*, use the calculator to determine the solution set.



4. Given $A(x) = 0.75x^2 - 2x + 3$
 $B(x) = .75x + 1.50$

- Sketch both equations.
- To the nearest tenth*, use the calculator to determine the solution set.



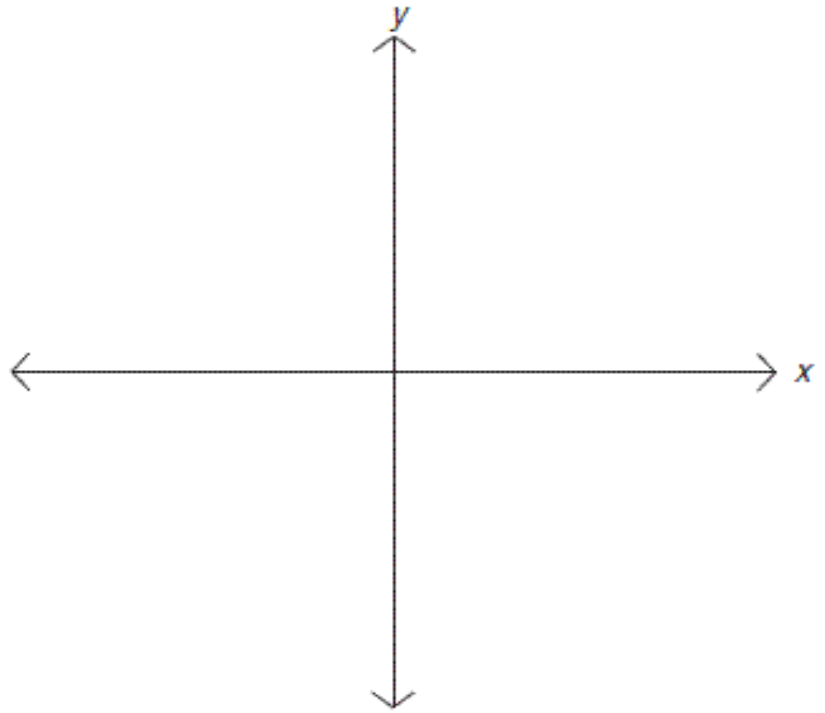
PARTNER PRACTICE

5. Given $h(x) = |x + 2| - 3$ and $g(x) = -|x| + 4$.

a. Describe how to obtain the graph of $h(x)$ from the graph of $a(x) = |x|$ using transformations.

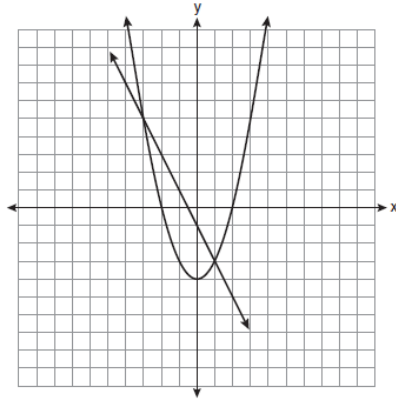
b. Describe how to obtain the graph of $g(x)$ from the graph of $a(x) = |x|$ using transformations.

c. Sketch the graphs of $h(x)$ and $g(x)$ on the same coordinate plane.



d. Determine the solutions to the equation: $|x + 2| - 3 = -|x| + 4$

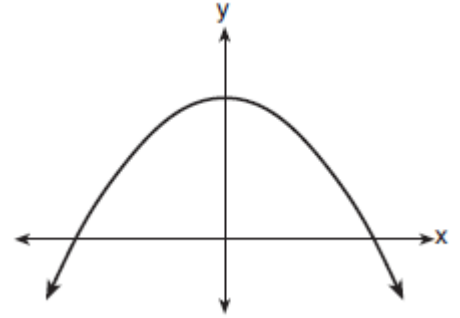
1. Which ordered pair is a solution of the system of equations shown in the graph below?



- 1) $(-3, 1)$
- 2) $(-3, 5)$
- 3) $(0, -1)$
- 4) $(0, -4)$

2. Which equation is best represented by the accompanying graph?

- 1) $y = 6^x$
- 2) $y = 6x^2$
- 3) $y = 6x + 1$
- 4) $y = -x^2 + 1$



3. Which values of x are in the solution set of the following system of equations?

$$y = 3x - 6$$

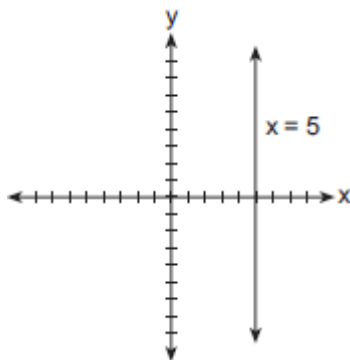
$$y = x^2 - x - 6$$

- 1) $0, -4$
- 2) $0, 4$
- 3) $6, -2$
- 4) $-6, 2$

4. Which is the equation of a parabola that has the same vertex as the parabola represented by $y = x^2$, but is wider?

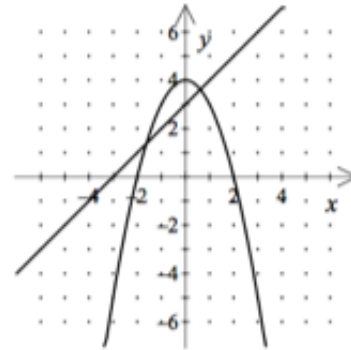
- 1) $y = x^2 + 2$
- 2) $y = x^2 - 2$
- 3) $y = 2x^2$
- 4) $y = \frac{1}{2}x^2$

5. The accompanying figure shows the graph of the equation $x = 5$. What is the slope of the line $x = 5$?



- 1) 5
- 2) -5
- 3) 0
- 4) undefined

6. Which system of equations is graphed below?



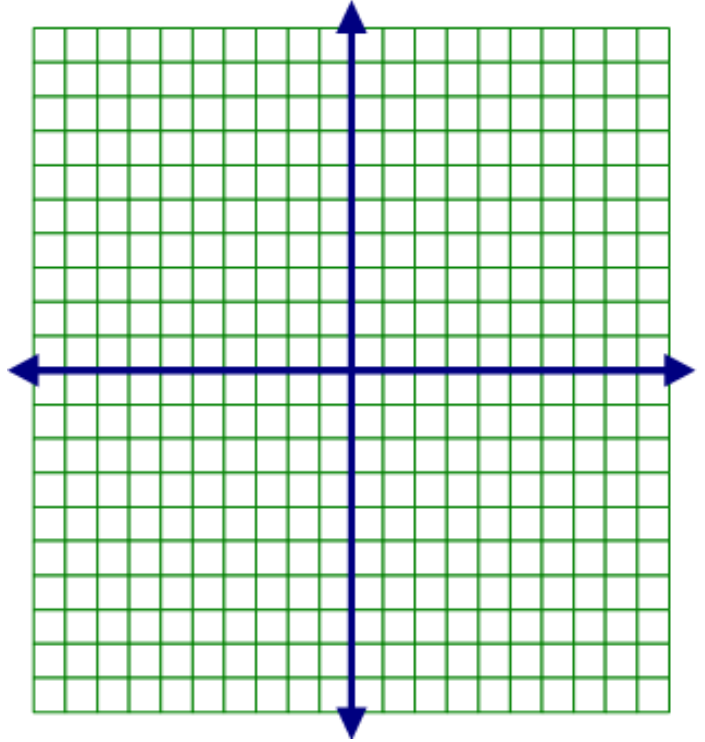
- | | |
|-----------------------------------|-----------------------------------|
| [A] $y = -x^2 - 4$
$y = x + 3$ | [B] $y = x^2 - 4$
$y = x + 3$ |
| [C] $y = x^2 + 4$
$y = x + 3$ | [D] $y = -x^2 + 4$
$y = x + 3$ |
| [E] $y = x^2 - 4$
$y = 3x$ | |

7. On the set of axes below, graph the following system of equations

- a. Plot the graphs of $f(x)$ and $g(x)$ on the same coordinate plane.

$$f(x) = -x^2 - 2x + 3$$

$$g(x) = \frac{1}{2}x - 2$$



- b. Determine the solutions, to the nearest hundredth to the equation: $-x^2 - 2x + 3 = \frac{1}{2}x - 2$

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