

Lesson 11 Practice Problems

- Select **all** true statements about the graph that represents $y = 2x(x - 11)$.
 - Its x -intercepts are at $(-2, 0)$ and $(11, 0)$.
 - Its x -intercepts are at $(0, 0)$ and $(11, 0)$.
 - Its x -intercepts are at $(2, 0)$ and $(-11, 0)$.
 - It has only one x -intercept.
 - The x -coordinate of its vertex is -4.5 .
 - The x -coordinate of its vertex is 11 .
 - The x -coordinate of its vertex is 4.5 .
 - The x -coordinate of its vertex is 5.5 .

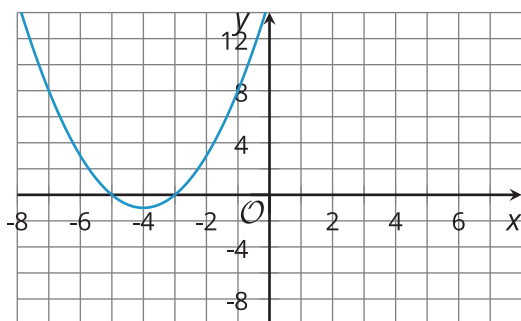
- Select **all** equations whose graphs have a vertex with x -coordinate 2 .
 - $y = (x - 2)(x - 4)$
 - $y = (x - 2)(x + 2)$
 - $y = (x - 1)(x - 3)$
 - $y = x(x + 4)$
 - $y = x(x - 4)$

- Determine the x -intercepts and the x -coordinate of the vertex of the graph that represents each equation.

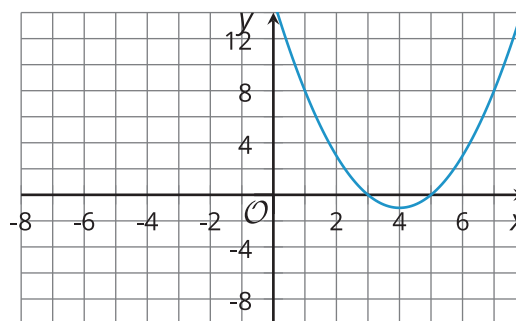
equation	x -intercepts	x -coordinate of the vertex
$y = x(x - 2)$		
$y = (x - 4)(x + 5)$		
$y = -5x(3 - x)$		

4. Which one is the graph of the equation $y = (x - 3)(x + 5)$?

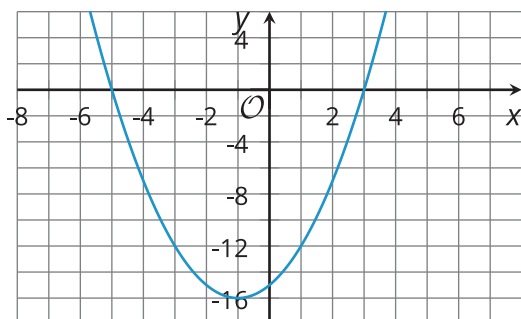
Graph A



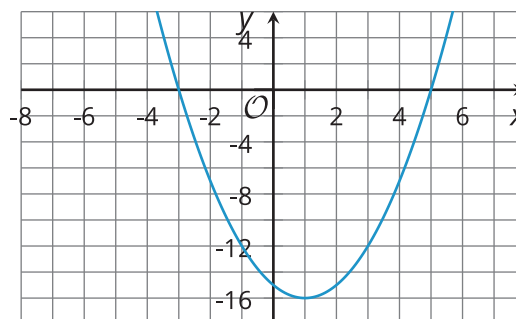
Graph B



Graph C



Graph D



- A. Graph A
 - B. Graph B
 - C. Graph C
 - D. Graph D
5. a. What are the x -intercepts of the graph of $y = (x - 2)(x - 4)$?
- b. Find the coordinates of another point on the graph. Show your reasoning.
- c. Sketch a graph of the equation $y = (x - 2)(x - 4)$.

6. A company sells calculators. If the price of the calculator in dollars is p , the company estimates that it will sell $10,000 - 120p$ calculators.

Write an expression that represents the revenue in dollars from selling calculators if a calculator is priced at p dollars.

(From Unit 6, Lesson 7.)

7. Is $(s + t)^2$ equivalent to $s^2 + 2st + t^2$? Explain or show your reasoning.

(From Unit 6, Lesson 8.)

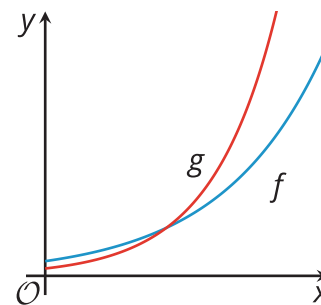
8. Tyler is shopping for a truck. He found two trucks that he likes. One truck sells for \$7,200. A slightly older truck sells for 15% less. How much does the older truck cost?

(From Unit 5, Lesson 14.)

9. Here are graphs of two exponential functions, f and g .

The function f is given by $f(x) = 100 \cdot 2^x$ while g is given by $g(x) = a \cdot b^x$.

Based on the graphs of the functions, what can you conclude about a and b ?



(From Unit 5, Lesson 13.)

10. Suppose G takes a student's grade and gives a student's name as the output. Explain why G is not a function.

(From Unit 4, Lesson 2.)