

Name: _____

Period: _____

SM 2

7.4 Graphing Quadratic Functions

Match each equation to its correct graph from the choices below.

1. $f(x) = 2(x+2)(x+4)$ _____

6. $f(x) = \frac{1}{2}(x-1)^2 - 3$ _____

2. $y = -\frac{1}{2}(x-2)(x+4)$ _____

7. $f(x) = x^2 - 6x + 5$ _____

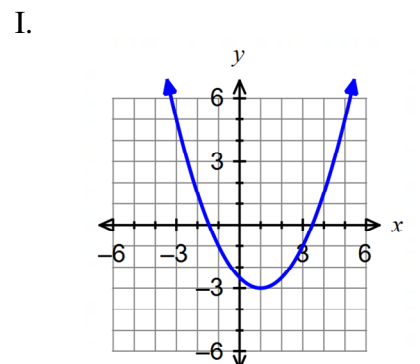
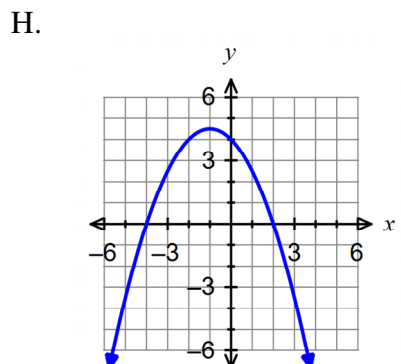
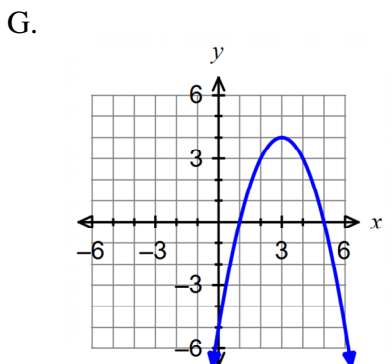
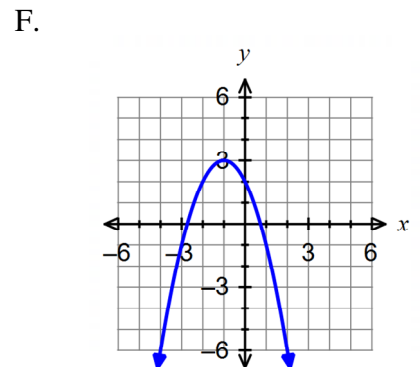
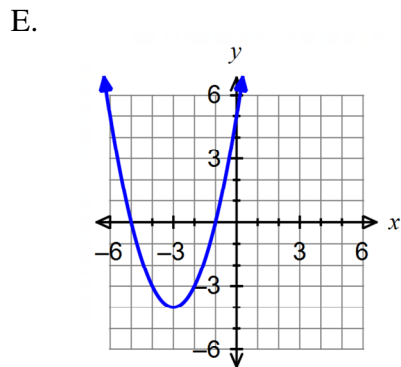
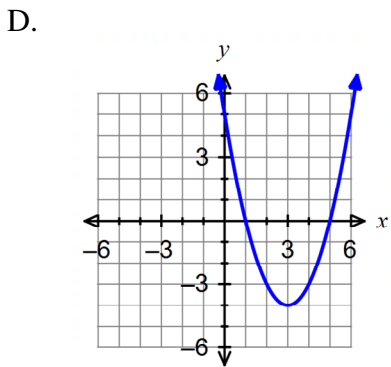
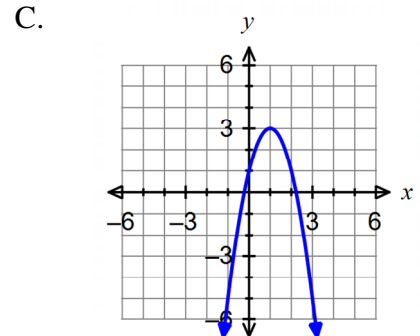
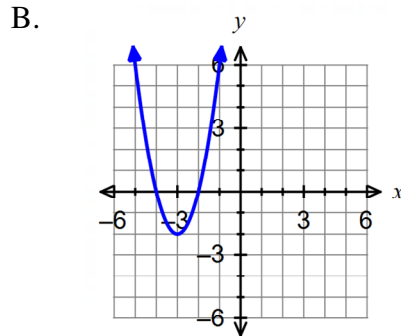
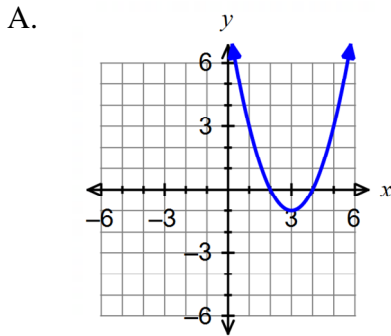
3. $f(x) = (x-2)(x-4)$ _____

8. $y = -x^2 + 6x - 5$ _____

4. $y = -(x+1)^2 + 3$ _____

9. $y = x^2 + 6x + 5$ _____

5. $f(x) = -2(x-1)^2 + 3$ _____



For each function, do the following: 1) state whether the function is in **standard**, **vertex**, or **factored** form, 2) state whether the parabola opens **up** or **down**, 3) find the **zeros** (x -values), 4) state the **x -intercepts** as ordered pairs, 5) state the **y -intercept** as an ordered pair, 6) state the **axis of symmetry**, and 7) state the **vertex**. Draw the graph using at least 5 exact points. **Show work for any features that can't be seen directly from the numbers in the equation!**

10. $f(x) = -2(x-2)(x+4)$

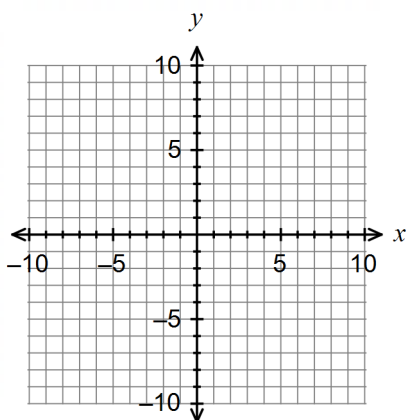
- 1) Form: _____
- 2) Direction of opening: _____
- 3) Zeros: _____
- 4) x -intercepts: _____
- 5) y -intercept: _____
- 6) Axis of symmetry: _____
- 7) Vertex: _____

Show work here:

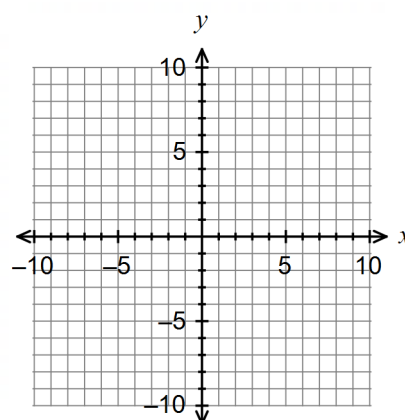
11. $y = -x^2 + 6x$

- 1) Form: _____
- 2) Direction of opening: _____
- 3) Zeros: _____
- 4) x -intercepts: _____
- 5) y -intercept: _____
- 6) Axis of symmetry: _____
- 7) Vertex: _____

Show work here:



x	$f(x)$



x	y

12. $y = 3(x-1)^2$

1) Form: _____

2) Direction of opening: _____

3) Zeros: _____

4) x -intercepts: _____

5) y -intercept: _____

6) Axis of symmetry: _____

7) Vertex: _____

Show work here:

13. $f(x) = x^2 - 3x - 10$

1) Form: _____

2) Direction of opening: _____

3) Zeros: _____

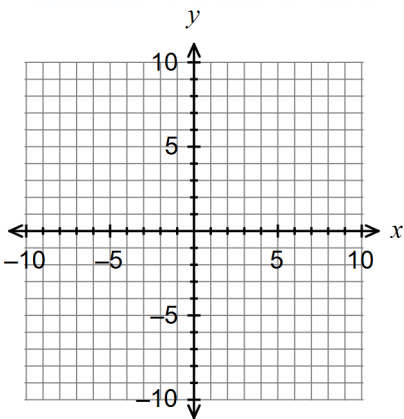
4) x -intercepts: _____

5) y -intercept: _____

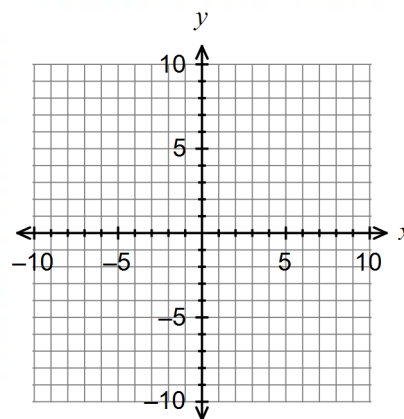
6) Axis of symmetry: _____

7) Vertex: _____

Show work here:



x	y



x	$f(x)$

14. $f(x) = \frac{1}{2}(x-1)(x+3)$

1) Form: _____

2) Direction of opening: _____

3) Zeros: _____

4) x -intercepts: _____

5) y -intercept: _____

6) Axis of symmetry: _____

7) Vertex: _____

Show work here:

15. $y = -(x+3)^2 - 2$

1) Form: _____

2) Direction of opening: _____

3) Zeros: _____

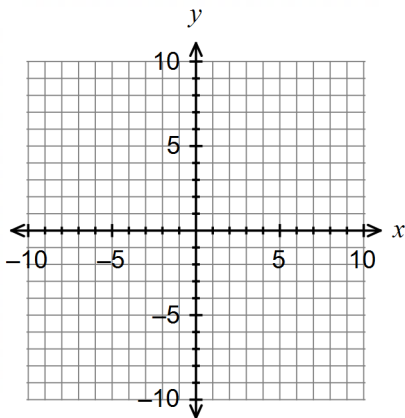
4) x -intercepts: _____

5) y -intercept: _____

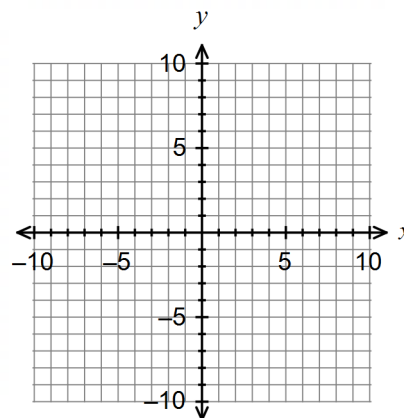
6) Axis of symmetry: _____

7) Vertex: _____

Show work here:



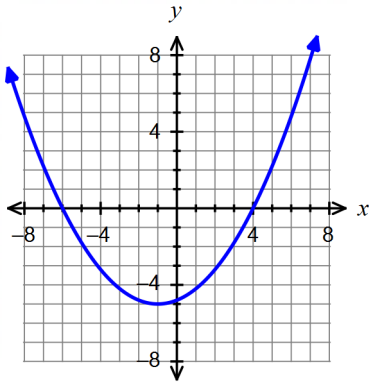
x	$f(x)$



x	y

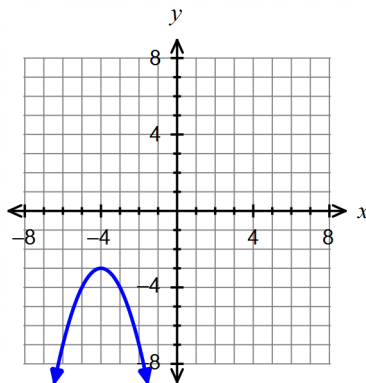
Circle the correct equation for each graph.

16.



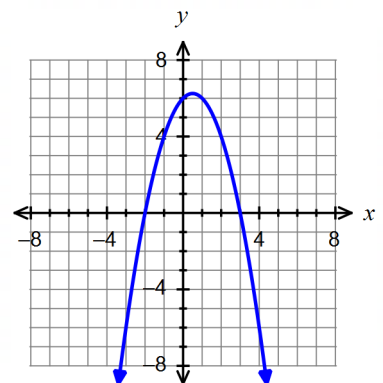
- A. $y = \frac{1}{5}(x-6)(x+4)$
- B. $y = 5(x-6)(x+4)$
- C. $y = \frac{1}{5}(x+6)(x-4)$
- D. $y = 5(x+6)(x-4)$

17.



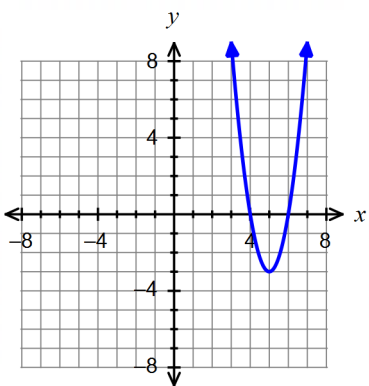
- A. $y = -(x+4)^2 + 3$
- B. $y = -(x+4)^2 - 3$
- C. $y = -(x-4)^2 + 3$
- D. $y = -(x-4)^2 - 3$

18.



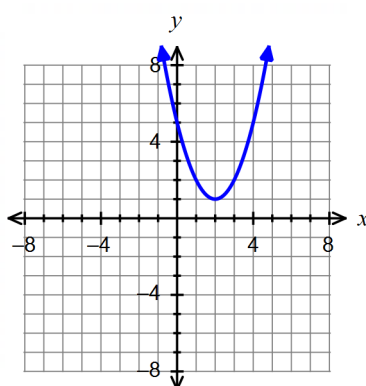
- A. $y = -x^2 - x - 6$
- B. $y = -x^2 - 5x - 6$
- C. $y = -x^2 + x + 6$
- D. $y = -x^2 + 5x + 6$

19.



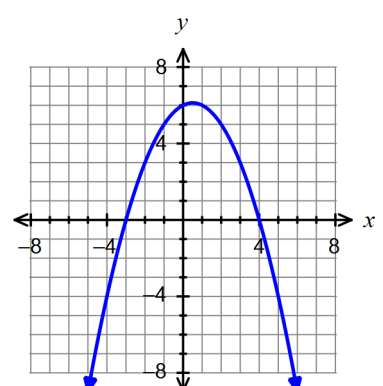
- A. $y = \frac{1}{3}(x-5)^2 - 3$
- B. $y = 3(x+5)^2 - 3$
- C. $y = 3(x-5)^2 - 3$
- D. $y = \frac{1}{3}(x+5)^2 - 3$

20.



- A. $y = x^2 + 6x - 5$
- B. $y = x^2 + 6x + 5$
- C. $y = x^2 - 4x - 5$
- D. $y = x^2 - 4x + 5$

21.



- A. $y = -\frac{1}{2}(x+3)(x-4)$
- B. $y = -2(x+3)(x-4)$
- C. $y = -2(x-3)(x+4)$
- D. $y = -\frac{1}{2}(x-3)(x+4)$