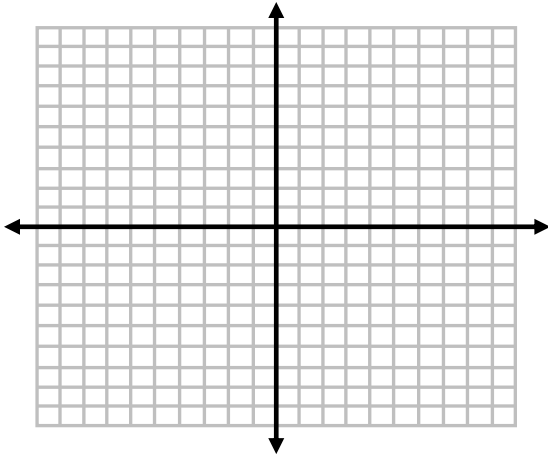


Use what is given to answer questions below.

1) Given $y = -x^2 + 4$

A) Graph plot and fill in the table with at least 5 points, including the vertex

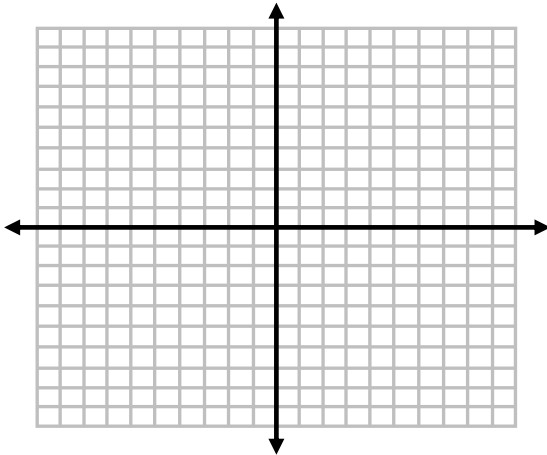


x	y

- B) How it opens: _____
- C) The Vertex: _____
- D) The roots _____
- E) Line of Symmetry _____
- F) Shift from the Parent Function _____
- G) Domain _____
- H) Range _____
- I) Minimum/Maximum Value _____

2) Given $y = (x+2)^2 - 2$

A) Graph plot and fill in the table with at least 5 points, including the vertex

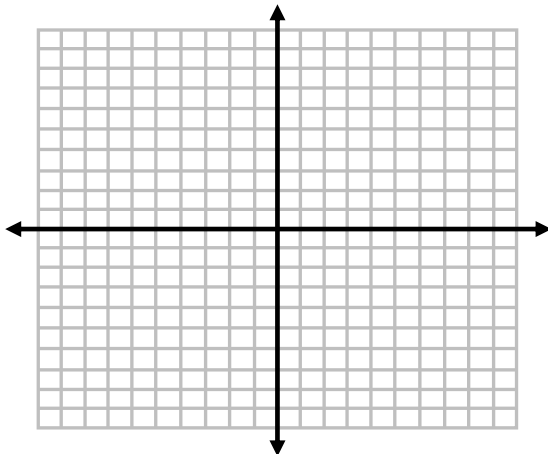


x	y

- B) How it opens: _____
- C) The Vertex: _____
- D) The roots _____
- E) Line of Symmetry _____
- F) Shift from the Parent Function _____
- G) Domain _____
- H) Range _____
- I) Minimum/Maximum Value _____

3) Given $y = (x-4)(x+2)$

A) Graph plot and fill in the table with at least 5 points, including the vertex

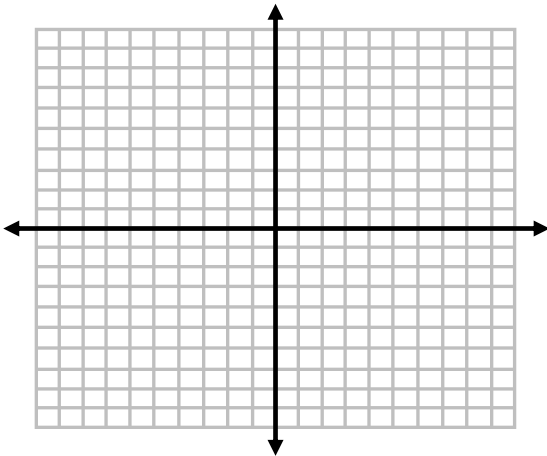


x	y

- B. How it opens: _____
- C. The Vertex: _____
- D. The roots _____
- E. Line of Symmetry _____
- F. Shift from the Parent Function _____
- G. Domain _____
- H. Range _____
- I. Minimum/Maximum Value _____

4) Given $y = -x^2 + 6x - 8$

A) Graph plot and fill in the table with at least 5 points, including the vertex



x	y

B) How it opens: _____

C) The Vertex: _____

D) The roots _____

E) Line of Symmetry _____

F) Shift from the Parent Function _____

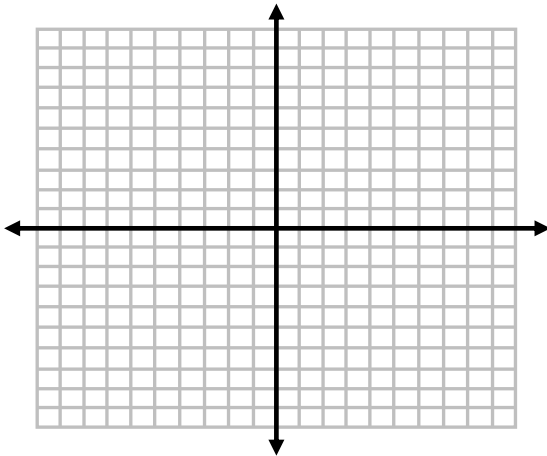
G) Domain _____

H) Range _____

I) Minimum/Maximum Value _____

5) Given $y = x^2 + 6x + 9$

A) Graph plot and fill in the table with at least 5 points, including the vertex



x	y

B) How it opens: _____

C) The Vertex: _____

D) The roots _____

E) Line of Symmetry _____

F) Shift from the Parent Function _____

G) Domain _____

H) Range _____

I) Minimum/Maximum Value _____

Use the description to write out each quadratic function in VERTEX form, $y = a(x - h)^2 + k$

6) The parent function $f(x) = x^2$ is reflected across the x -axis, vertically compressed by a factor of $\frac{1}{2}$ and translated 1 unit up to create $g(x)$.

7) The parent function $f(x) = x^2$ is vertically stretched by a factor of $\frac{3}{2}$ and translated 1 unit to the left and 1 unit up to create $h(x)$.

8) The parent function $f(x) = x^2$ is reflected across the x -axis, vertically stretched by a factor of 6 and translated 3 units left create $g(x)$.

Application

9) A record label uses the following function to model the sales of a new release, $a(t) = -90t^2 + 8100t$ whereas the number albums sold is a function of time, t , in days. On which day were the most albums sold? What is the maximum number of albums sold on that day?