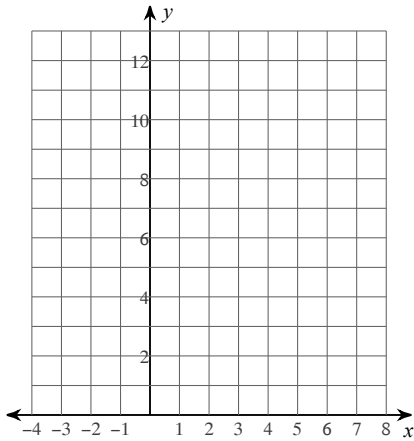


5.3 Vertex Form

Sketch the graph of each function. Then identify the key features using interval notation.

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



2) a. x-intercept(s): b. y-intercept:

c. axis of symmetry:

d. vertex:

e. Max/Min Value:

f. Direction of Opening

g. Domain:

h. Range:

i. Increasing:

j. Decreasing:

k. Positive:

l. Negative:

m. End behavior:

3) a. x-intercept(s):

b. y-intercept:

c. axis of symmetry:

d. vertex:

e. Max/Min Value:

f. Direction of Opening

g. Domain:

h. Range:

i. Increasing:

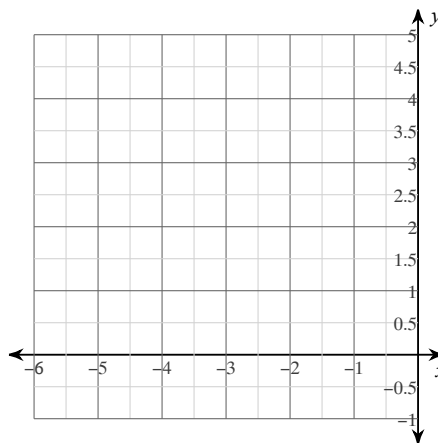
j. Decreasing:

k. Positive:

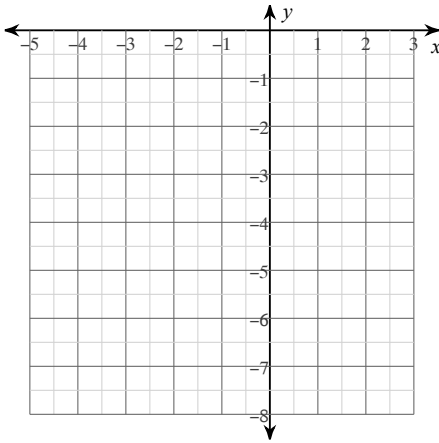
l. Negative:

m. End behavior:

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



5) $y = -(x - 1)^2 - 3$



6) a. x-intercept(s): b. y-intercept:

c. axis of symmetry:

d. vertex:

e. Max/Min Value:

f. Direction of Opening

g. Domain:

h. Range:

i. Increasing:

j. Decreasing:

k. Positive:

l. Negative:

m. End behavior:

7) a. x-intercept(s):

b. y-intercept:

c. axis of symmetry:

d. vertex:

e. Max/Min Value:

f. Direction of Opening

g. Domain:

h. Range:

i. Increasing:

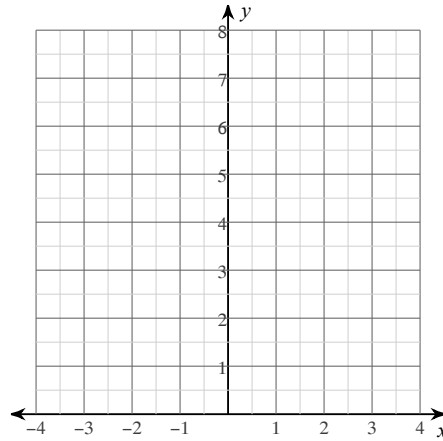
j. Decreasing:

k. Positive:

l. Negative:

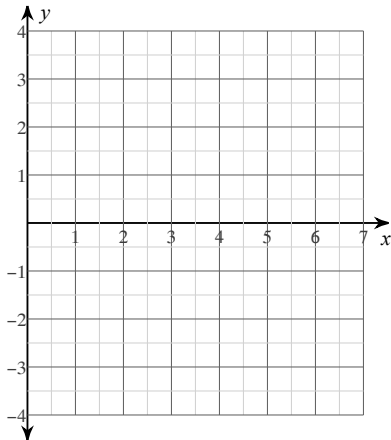
m. End behavior:

8) $y = (x - 2)^2 + 3$



Sketch the graph of each function. Then identify the key features using inequalities.
Approximate where necessary.

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



10) a. x-intercept(s): b. y-intercept:

c. axis of symmetry:

d. vertex:

e. Max/Min Value:

f. Direction of Opening

g. Domain:

h. Range:

i. Increasing:

j. Decreasing:

k. Positive:

l. Negative:

m. End behavior:

11) a. x-intercept(s):

b. y-intercept:

c. axis of symmetry:

d. vertex:

e. Max/Min Value:

f. Direction of Opening

g. Domain:

h. Range:

i. Increasing:

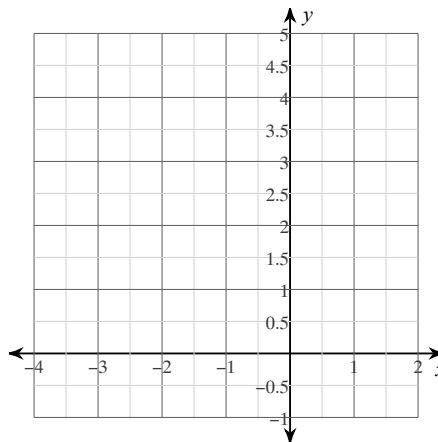
j. Decreasing:

k. Positive:

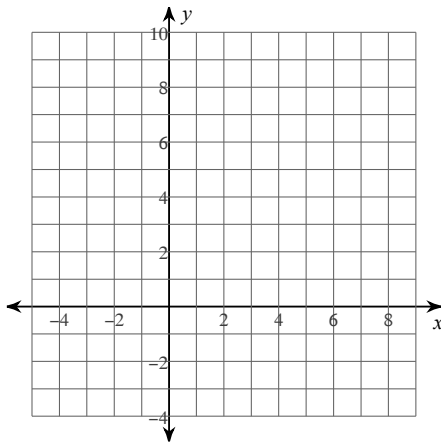
l. Negative:

m. End behavior:

12) $y = -(x + 2)^2 + 4$



13) $y = 3(x - 3)^2 - 3$



14) a. x-intercept(s):

b. y-intercept:

c. axis of symmetry:

d. vertex:

e. Max/Min Value:

f. Direction of Opening

g. Domain:

h. Range:

i. Increasing:

j. Decreasing:

k. Positive:

l. Negative:

m. End behavior:

15) a. x-intercept(s):

b. y-intercept:

c. axis of symmetry:

d. vertex:

e. Max/Min Value:

f. Direction of Opening

g. Domain:

h. Range:

i. Increasing:

j. Decreasing:

k. Positive:

l. Negative:

m. End behavior:

16) $y = -2(x + 4)^2 + 2$

