

5.4 Standard Form

Find the vertex of each function.

1) $y = -x^2 + 8x - 13$

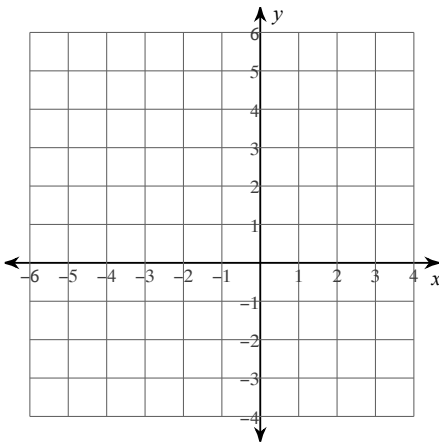
2) $y = x^2 - 2x$

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

4) $y = -x^2 + 4x - 5$

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

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



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:

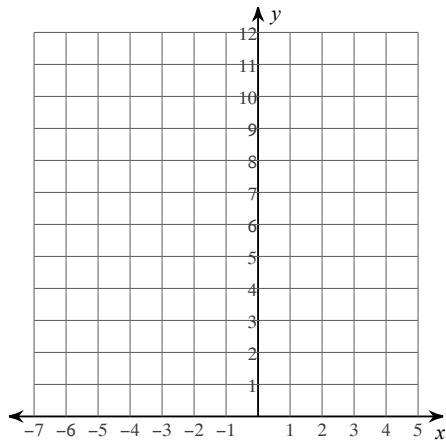
j. Decreasing:

k. Positive:

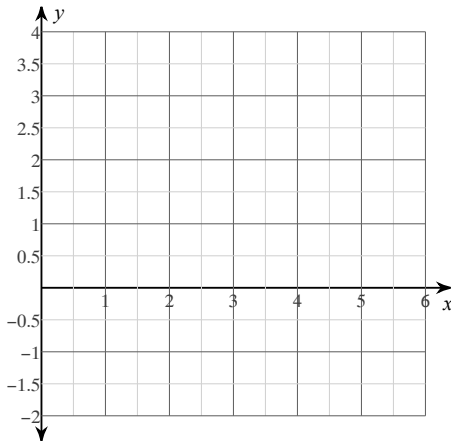
l. Negative:

m. End behavior:

8) $y = 2x^2 - 12x + 21$



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



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:

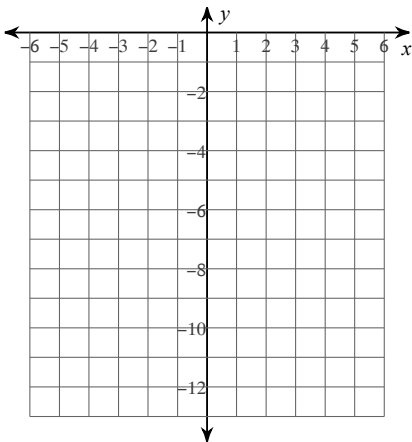
k. Positive:

l. Negative:

m. End behavior:

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

11) $y = -2x^2 + 12x - 22$



12) 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:

13) 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:

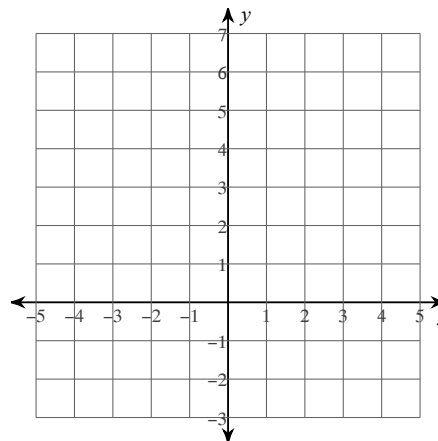
j. Decreasing:

k. Positive:

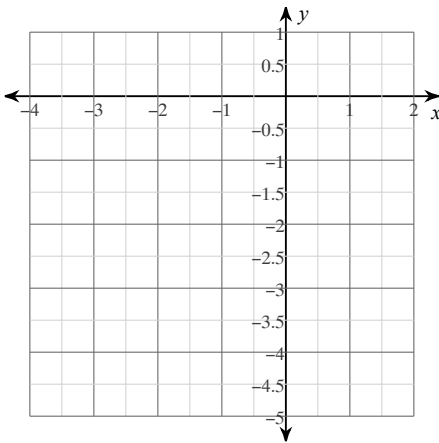
l. Negative:

m. End behavior:

14) $y = 2x^2 - 12x + 16$



15) $y = x^2 + 4x$



16) 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:

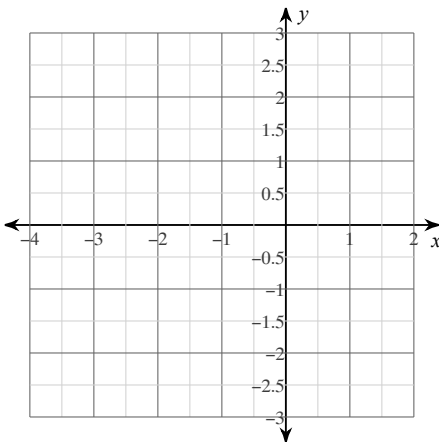
k. Positive:

l. Negative:

m. End behavior:

Sketch the graph of each function.

17) $y = x^2 + 2x - 1$



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

