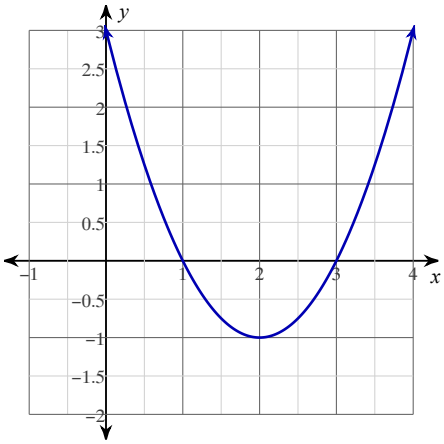
Secondary Math 2 Honors Name_____

3.1 Key Features and Basic Graphing

Date_____ Period____

Identify the key features of each graph. Approximate and use interval notation when necessary.

1)



a. x-intercept(s):

b. y-intercept:

c. axis of symmetry:

d. vertex:

e. Max/Min Value:

f. Domain:

g. Range:

h. Increasing:

i. Decreasing:

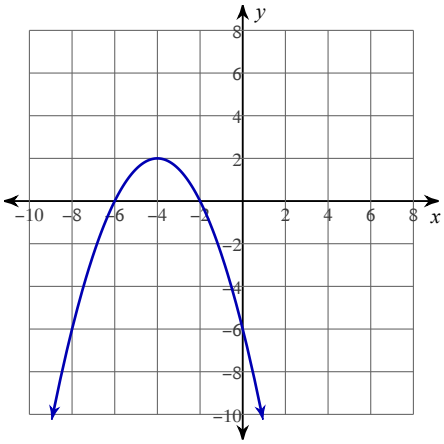
j. Direction of Opening:

k. Positive:

l. Negative:

m. End behavior:

2)



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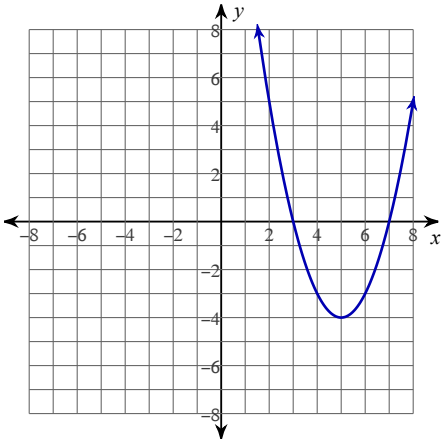
3)



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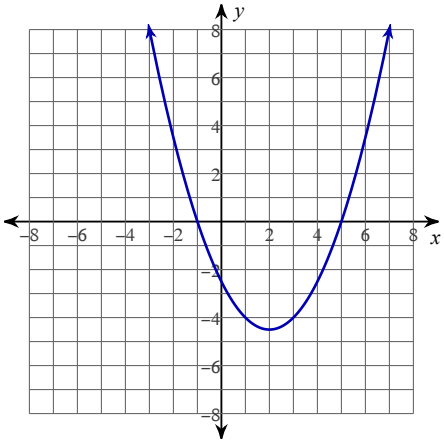
4)



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b. y-intercept:

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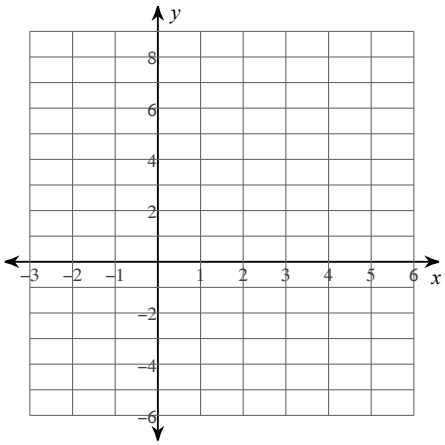
5) Describe how to graph a parabola.

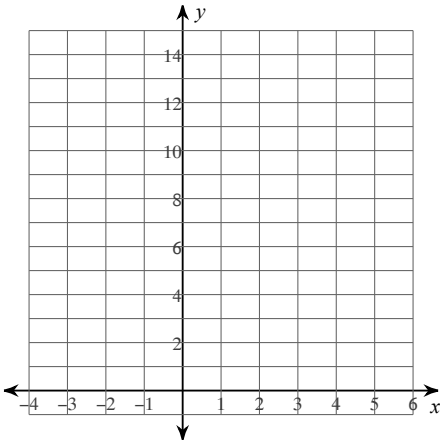
6) Describe the growth rate of a quadratic.

Graph each equation given the vertex.

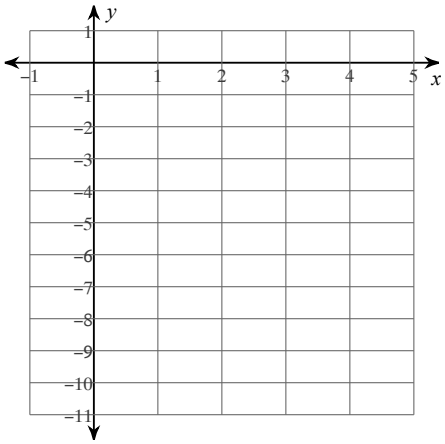
7) $y = 3(x - 1)^2 - 4$
Vertex: (1, -4)



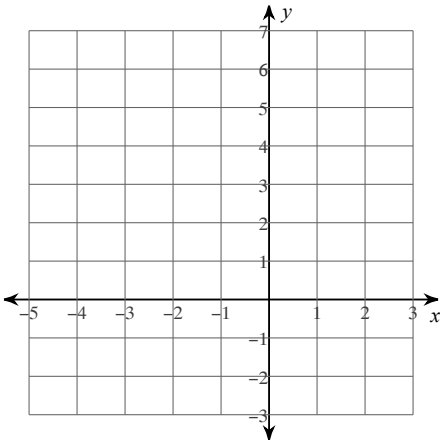
8) $y = 2(x - 2)^2 + 4$
Vertex: $(2, 4)$



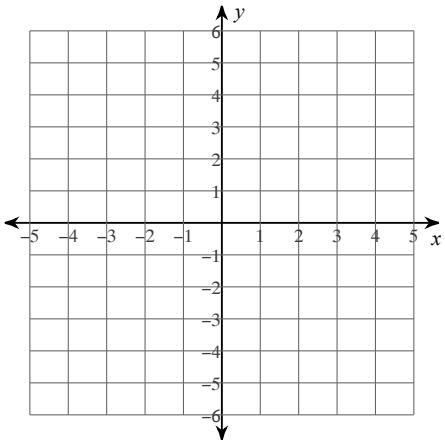
9) $y = -2x^2 + 8x - 10$
Vertex: $(2, -2)$



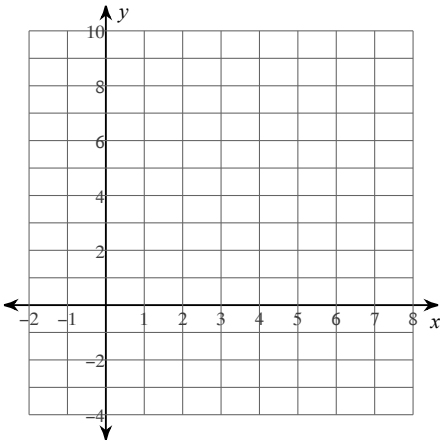
10) $y = 2x^2 + 4x$
Vertex: $(-1, -2)$



11) $y = (x + 2)(x - 2)$
Vertex: $(0, -4)$



12) $y = -(x - 5)(x + 1)$
Vertex: $(2, 9)$



Graph each equation given the vertex. Then identify the key features.

13) $y = 4(x + 1)(x + 3)$
Vertex: $(-2, -4)$

a. x-intercept(s):

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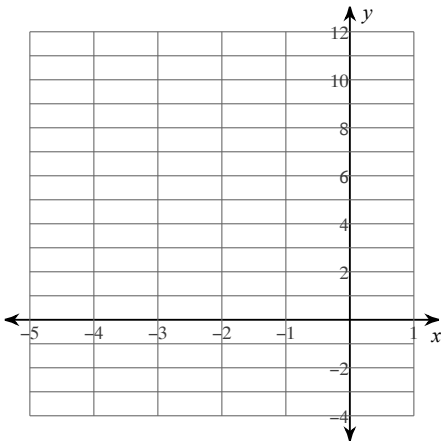

14) $y = -x^2 + 8x - 20$
Vertex: $(4, -4)$

a. x-intercept(s):

b. y-intercept:

c. axis of symmetry:

d. vertex:

e. Max/Min Value:

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h. Increasing:

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