Name: _____

Period: _____

1] $y = (x - 3)^2$
Axis of Symmetry is x= _____
Vertex: $(x - 3)^2$
Vertex: (____, ____)
Opens up or down?
x-intercept: (____, ____)
y-intercept: (0, ____)

Vertex: (____, ____)
Opens up or down?
x-intercepts: (____, 0)(____, 0)
y-intercept: (0, ____)

Vertex: (____, ____)
Opens up or down?
x-intercepts: (____, 0)(____, 0)
y-intercept: (0, ____)

5] $y = \frac{1}{2}(x - 3)^2 + 2$
Axis of Symmetry is x= _____
Vertex: (____, ____)
Opens up or down?
x-intercepts: (____, 0)(____, 0)
y-intercept: (0, ____)

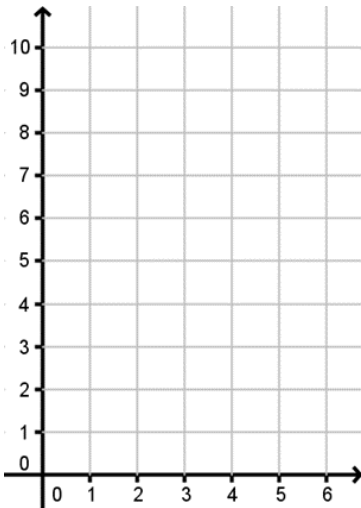6] $y = -\frac{1}{4}(x + 2)^2 + 1$
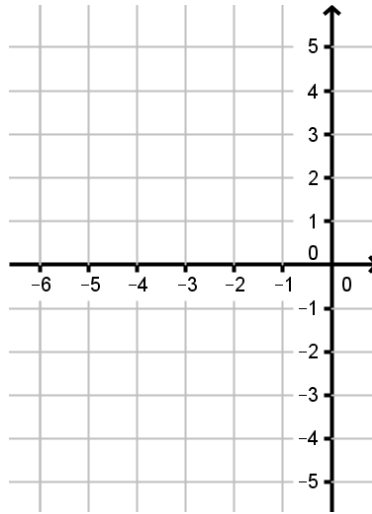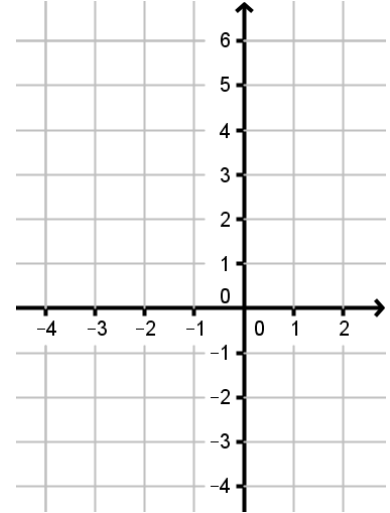Axis of Symmetry is x= _____
Vertex: (____, ____)
Opens up or down?
x-intercepts: (____, 0)(____, 0)
y-intercept: (0, ____)

4] $y = 2(x + 2)^2$
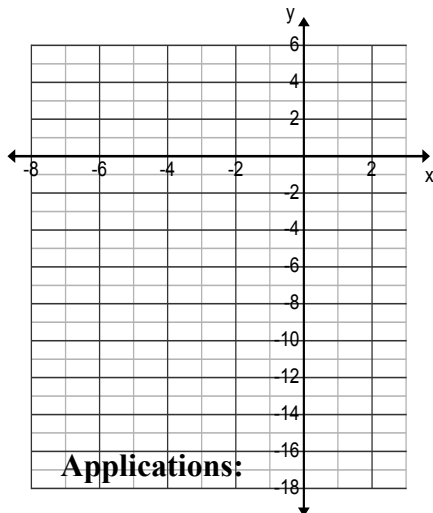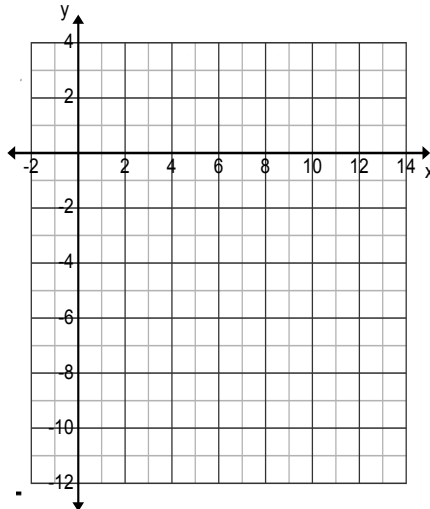Axis of Symmetry is x= _____
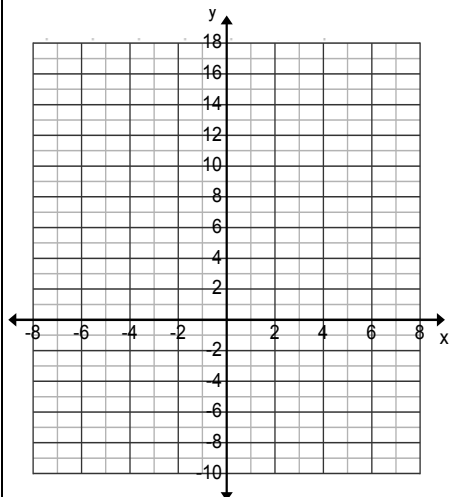Vertex: (____, ____)
Opens up or down?
x-intercepts: (____, 0)(____, 0)
y-intercept: (0, ____)

Applications:

7] We throw an object upward from the top of a building. The height of the object, (measured in feet) t seconds after we threw it is $h(t) = -16(t – 5)^2 + 1600$.

a) How tall is the building?

b) How many seconds after it was thrown will the object start to fall?

c) What is the maximum height the object reaches?

d) How many seconds does it take for the object to hit the ground?

8] The function $y = -0.2(x – 14)^2 + 5$ models the jump of a red kangaroo where x is the horizontal distance (in meters) and y is the corresponding height.

a) What is the kangaroo's maximum height?

b) How long is the kangaroo's jump?