

Vertex Form I

In *Parabolas and Equations I, II, and III*, you explored the equations

$$y = x^2$$

$$y = ax^2$$

$$y = x^2 + k$$

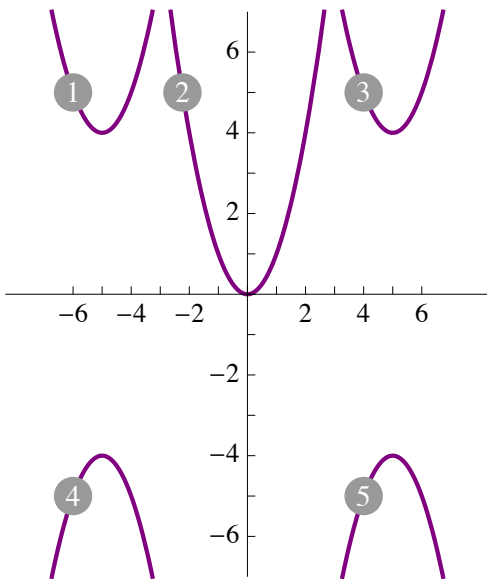
$$y = (x - h)^2$$

All these ideas are combined in one general equation

$$y = a(x - h)^2 + k$$

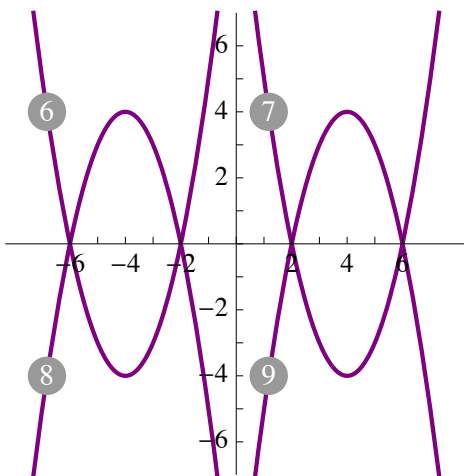
This equation is called the *vertex form* for parabolas. The values for a , h , and k are the parameters of the equation. Use what you have learned about these parameters to make each of these designs on your graphing app. Write the equations you use.

1.



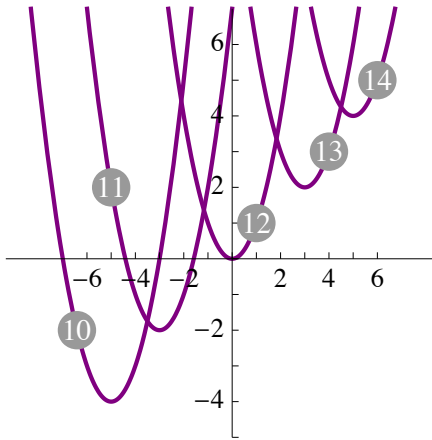
1	$y =$
2	$y =$
3	$y =$
4	$y =$
5	$y =$

2.



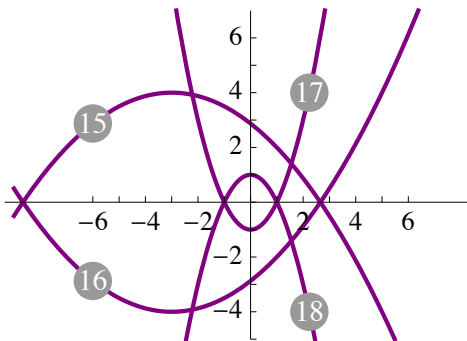
6	$y =$
7	$y =$
8	$y =$
9	$y =$

3.



10	$y =$
11	$y =$
12	$y =$
13	$y =$
14	$y =$

4.



15	$y =$
16	$y =$
17	$y =$
18	$y =$