

## Quadratic Parameters

1. Name and show three forms of quadratic functions:
  
2. What does each of the following parameters control?
  - a. Describe it in words
  - b. Draw one or more parabolas and label significant points with these letters.
    - a
    - c
    - h
    - p
    - q
    - v
  
3. What is the discriminant, and what does it tell you about the graph of a parabola?
  
4. Express
  - a.  $c$  in terms of  $a$ ,  $p$ , and  $q$
  - b.  $p$  in terms of  $a$ ,  $b$ , and the discriminant
  - c.  $q$  in terms of  $a$ ,  $b$ , and the discriminant
  - d.  $p+q$  in terms of  $a$  and  $b$
  - e.  $h$  in terms of  $p$  and  $q$
  - f.  $h$  in terms of  $a$  and  $b$
  - g.  $pq$  in terms of  $a$  and  $c$
  - h.  $v$  in terms of  $a$ ,  $b$ ,  $c$
  - i.  $v$  in terms of the discriminant and  $a$
  
5. How many  $x$ -intercepts if:
  - a.  $v = 0$
  - b.  $v > 0$  and  $a > 0$
  - c.  $v < 0$  and  $a > 0$
  - d.  $v > 0$  and  $a < 0$
  - e.  $v < 0$  and  $a < 0$
  - f.  $a > 0$  and  $c < 0$
  - g.  $a < 0$  and  $c > 0$