

**Standard form**

$$y=ax^2+bx+c$$

The equation of the axis of symmetry is  $x=-b/2a$ .

The vertex lies on the axis of symmetry, so its x-coordinate is  $-b/(2a)$ . You can find its y-coordinate by substituting  $-b/(2a)$  for  $x$  in the equation of the parabola.

**Vertex form**

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

If  $|a|<1$ , then the graph will be wider than the graph of  $y=x^2$ .

If  $|a|>1$ , then the graph will be narrower than the graph of  $y=x^2$ .

The vertex of the parabola is located at the point with coordinates  $(h, k)$  and the equation of the axis of symmetry is  $x=h$ .