



Vocabulary: Quadratics in Vertex Form



Vocabulary

- Axis of symmetry – a line that divides a shape into two parts that are mirror images of each other.
 - The axis of symmetry of a parabola goes through the vertex of the parabola.
 - The equation of the axis of symmetry of the graph of $y = a(x - h)^2 + k$, where $a \neq 0$, is $x = h$.
- Parabola – the graph of a quadratic function.
 - For example, the graph of $y = (x - 2)^2 - 1$ is shown above.
- Quadratic function – a function in which y depends on the square of x .
 - The polynomial form of a quadratic function is $y = ax^2 + bx + c$ and the vertex form is $y = a(x^2 - h) + k$, where $a \neq 0$.
 - The graph of a quadratic function is always a parabola.
- Vertex form of a quadratic function – a function of the form $y = a(x^2 - h) + k$, where $a \neq 0$.
- Vertex of a parabola – the point that is the maximum or minimum of a parabola.
 - The vertex is the *minimum* when the parabola opens up, and it is the *maximum* when the parabola opens down.
 - The vertex always lies on the axis of symmetry.
- x-intercept – the x -coordinate where a graph intersects the x -axis.
 - For example, the x -intercepts of the graph above are 1 and 3.
- y-intercept – the y -coordinate where a graph intersects the y -axis.
 - For example, the y -intercept of the graph above is 3.

