A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the value of the variable that makes an equation true. It is the same as the solution to an equation.

**Recall that a quadratic equation is an equation of the form**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

If , find the value that makes .

**What happens if a quadratic equation cannot be factored?**

To determine for a quadratic equation of the form \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, we can use the quadratic formula to find the roots:

|  |
| --- |
|  |

\*\*\*Yes, it is ugly, but you **must** memorize this formula!\*\*\*

You may for once, use a calculator!

**Example 1** Use the quadratic formula to solve each quadratic equation. Where necessary, round to four decimal places.

**Example 2** Find the -intercepts, the vertex, and the equation of the axis of symmetry of the quadratic relation . Sketch the parabola.

**Homework:** Page 300 #4ce, 5ace, 6,7,9ce, 10,11