Quadratic equation

Theorem:

$$\textit{For } ax^2 + bx + c = 0$$

$$\textit{Delta} = \Delta = b^2 - 4ac$$

If $\sqrt{\Delta} \geq 0$ *: we have two solutions.*
If $\sqrt{\Delta} < 0$ *: we don't have any solution.*

$$x_1 = \frac{-b-\sqrt{\Delta}}{2a} \quad \textit{and} \quad x_2 = \frac{-b+\sqrt{\Delta}}{2a}$$

$$ax^2 + bx + c = a\,(x - x_1)(x - x_2)$$