

0.0 Equações de 2º Grau

10 de setembro de 2021

1 Tipo 0

1.1. Determine a(s) solução(ões) da equação

$$ax^2 + bx + c = 0.$$

$$a > 0, |b| + |c| > 0.$$

(a) Se $\Delta > 0$

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

Se $\Delta < 0$

$$x_1 = \frac{-b \pm \sqrt{-\Delta}i}{2a} \quad \text{e} \quad x_2 = \frac{-b \pm \sqrt{-\Delta}i}{2a}$$

Se $\Delta = 0$

$$x = \frac{-b}{2a}$$

(b) Se $\Delta > 0$

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

Se $\Delta < 0$

$$x_1 = \frac{b - \sqrt{-\Delta}i}{2a} \quad \text{e} \quad x_2 = \frac{b + \sqrt{-\Delta}i}{2a}$$

Se $\Delta = 0$

$$x = \frac{b}{2a}$$

(c) Se $\Delta > 0$

$$x_1 = \frac{-b - \sqrt{\Delta}}{a} \quad \text{e} \quad x_2 = \frac{-b + \sqrt{\Delta}}{a}$$

Se $\Delta < 0$

$$x_1 = \frac{-b \pm \sqrt{-\Delta}i}{a} \quad \text{e} \quad x_2 = \frac{-b \pm \sqrt{-\Delta}i}{a}$$

Se $\Delta = 0$

$$x = \frac{-b}{a}$$

(d) Se $\Delta > 0$

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

Se $\Delta < 0$

$$x_1 = \frac{-b \pm \sqrt{-\Delta}}{2a} \quad \text{e} \quad x_2 = \frac{-b \pm \sqrt{-\Delta}}{2a}$$

Se $\Delta = 0$

$$x_1 = \frac{-b}{2a} \quad \text{e} \quad x_2 = \frac{b}{2a}$$

(e) Se $\Delta > 0$

$$x = \frac{b - \sqrt{\Delta}}{2a}$$

Se $\Delta < 0$

$$x = \frac{b - \sqrt{-\Delta}}{2a}$$

Se $\Delta = 0$

$$x_1 = \frac{-b}{a} \quad \text{e} \quad x_2 = \frac{b}{a}$$

Feedback

Esta é uma equação de 2º grau da forma $ax^2 + bx + c = 0$.

$$\Delta = b^2 - 4ac.$$

Se $\Delta > 0$

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

Se $\Delta < 0$

$$x_1 = \frac{-b \pm \sqrt{-\Delta}i}{2a} \quad \text{e} \quad x_2 = \frac{-b \pm \sqrt{-\Delta}i}{2a}$$

Se $\Delta = 0$

$$x = \frac{-b}{2a}$$