① $2x^2 - 16x + 50 = 0$

$a = 2 \qquad b = -16 \qquad c = 50$

$\Delta = b^2 - 4 \cdot a \cdot c$

$\Delta = (-16)^2 - 4 \cdot 2 \cdot 50$

$\Delta = 256 - 400$

$\Delta = -144$

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

$$x = \frac{-(-16) \pm \sqrt{-144}}{2 \cdot 2}$$

$$x = \frac{16 \pm 12i}{4}$$

$\sqrt{-144} = \sqrt{144 \cdot (-1)}$

$= 12\sqrt{-1}$ $\quad \therefore \sqrt{-1} = i$

$12i$

$$x_1 = \frac{16 + 12i}{4} \rightarrow \boxed{4 + 3i}$$

$$x_2 = \frac{16 - 12i}{4} \rightarrow \boxed{4 - 3i}$$

3° ano

② $x^2 - 6x + 10 = 0$

$a = 1 \quad b = -6 \quad c = 10$

$\sqrt{-1} = i$

$\Delta = b^2 - 4.a.c$

$\Delta = (-6)^2 - 4.1.10$

$\Delta = 36 - 40$

$\Delta = -4$

$\sqrt{-4} = \sqrt{4(-1)} \rightarrow$

$\Rightarrow 2\sqrt{-1} \rightarrow 2i$

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

$$x = \frac{-(-6) \pm \sqrt{-4}}{2.1}$$

$$x = \frac{6 \pm 2i}{2}$$

$$x_1 = \frac{6 + 2i}{2} \rightarrow 3 + 1i \rightarrow \boxed{3+i}$$

$$x_2 = \frac{6 - 2i}{2} \rightarrow \boxed{3-i}$$

3º ano