

Quiz 8

$$\textcircled{1} \quad 4x^2 - 10 = 0 \Rightarrow 4x^2 = 10 \Rightarrow x^2 = \frac{10}{4} = \frac{5}{2}$$

$$\text{so } \boxed{x = \pm \sqrt{5/2}}$$

$$\textcircled{2} \quad x^2 - 5x - 6 = 0 \Rightarrow (x-6)(x+1) = 0 \Rightarrow$$

$$\boxed{x = 6, -1}$$

$$\textcircled{3} \quad x^2 + 4x - 2 = 0 \Rightarrow x^2 + 4x = 2 \Rightarrow$$

$$x^2 + 4x + 4 = 2 + 4 = 6$$

$\xleftarrow{\quad} \text{complete square}$

$$\Rightarrow (x+2)^2 = 6 \Rightarrow x+2 = \pm \sqrt{6} \Rightarrow \boxed{x = -2 \pm \sqrt{6}}$$

$$\textcircled{4} \quad \underbrace{5}_{a}x^2 - \underbrace{3}_{b}x - \underbrace{2}_{c} = 0 \Rightarrow$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2 \cdot a} = \frac{3 \pm \sqrt{9 - 4(5)(-2)}}{10} =$$

$$\frac{3 \pm \sqrt{49}}{10} = \frac{3 \pm 7}{10} = \boxed{-2/5, 1}$$