Solve by using the Quadratic Equation

7. $x^2 + 10x + 25 = 0$

8. $5x^2 + 2x + 10 = 0$

9. $3x^2 = 7x + 20$

Solution:

7. $x^2 + 10x + 25 = 0$

$$D = 100 - 100 = 0$$

$$x_{1,2} = \frac{-10 \pm 0}{2}$$

$$x_{1,2} = -5$$

Answer: $x_{1,2} = -5$

8. $5x^2 + 2x + 10 = 0$

$$D = 4 - 4 * 5 * 10 = -196 < 0$$

$$x \in \emptyset$$

Answer: $x \in \emptyset$

9. $3x^2 = 7x + 20$

$$3x^2 - 7x - 20 = 0$$

$$D = 49 + 3 * 4 * 20 = 289 = 17^2$$

$$x_{1,2} = \frac{7 \pm 17}{2 * 3}$$

$$x_1 = 4, \quad x_2 = -\frac{5}{3}$$

Answer: $x_1 = 4, \quad x_2 = -\frac{5}{3}$