

Quadratische Gleichungen Aufgabe 34

$$x^2 + \frac{x}{7} = 50$$

$$x^2 + \frac{x}{7} = 50 \quad | -50$$

$$x^2 + \frac{x}{7} - 50 = 0$$

$$p = \frac{1}{7}; \quad q = -50$$

$$x_{1,2} = -\frac{\frac{1}{7}}{2} \pm \sqrt{\left(\frac{\frac{1}{7}}{2}\right)^2 - (-50)}$$

$$x_{1,2} = -\frac{1}{14} \pm \sqrt{\frac{1}{196} + 50}$$

$$x_{1,2} = -\frac{1}{14} \pm \sqrt{\frac{9801}{196}}$$

$$x_{1,2} = -\frac{1}{14} \pm \frac{99}{14}$$

$$x_1 = -\frac{1}{14} - \frac{99}{14} = -\frac{100}{14} = -\frac{50}{7}$$

$$x_2 = -\frac{1}{14} + \frac{99}{14} = \frac{98}{14} = 7$$