

$$1.1 \quad 3x^2 + 9x = 3x^2 + 9x - 5x - 15 \quad \checkmark \checkmark \checkmark$$

$$0 = -5x - 15 \quad \checkmark \quad x = -3 \quad L = \{-3\} \quad \checkmark$$

4

$$1.2 \quad 9x^2 - 24x + 16 - 8(x^2 + 8x + 16) = x^2 - 16 \quad \checkmark$$

$$9x^2 - 24x + 16 - 8x^2 - 64x - 128 = x^2 - 16 \quad \checkmark$$

$$-88x - 128 + 16 = -16 \quad \checkmark$$

$$-88x = 96 \quad x = -\frac{12}{11} \quad L = \{-\frac{12}{11}\} \quad \checkmark$$

5

2.

$$2.1 \quad \frac{x^2 - 4}{10x} \cdot \frac{x^2}{x+2} = \frac{(x-2)(x+2)}{10x} \cdot \frac{x^2}{x+2} = \frac{(x-2)x}{10} \quad \checkmark$$

3

$$2.2 \quad \frac{2x+2}{x-1} + \frac{8}{x+1} - \frac{4}{x^2-1} = \frac{(2x+2)(x+1) + 8(x-1) - 4}{x^2-1} = \frac{2x^2 + 2x + 2x + 2 + 8x - 8 - 4}{x^2-1} = \frac{2x^2 + 12x - 10}{x^2-1} \quad \checkmark$$

4

$$\frac{2x^2 + 12x - 10}{x^2 - 1} \quad \checkmark$$

$$3.1 \quad m = \frac{4-0}{-3-3} = \frac{4}{-6} = -\frac{2}{3} \quad 0 = -\frac{2}{3} \cdot 3 + t \quad t = 2 \text{ also } y = -\frac{2}{3}x + 2 \quad \checkmark$$

3

$$3.2 \quad y = -\frac{2}{3} \cdot 24 + 2 = -14 \quad \text{also liegt B auf der Geraden g} \quad \checkmark$$

2

Graphen zeichnen $\checkmark \checkmark \checkmark$

$$3.3 \quad y = 0,5x - 3 \quad 0 = 0,5x - 3 \quad x = 6 \quad N(6/0) \quad \checkmark \checkmark$$

9

Nullstelle von g: C(3/0) $\checkmark$

$$\text{Schnittpunkt: } -\frac{2}{3}x + 2 = 0,5x - 3 \quad \frac{7}{6}x = 5 \quad \text{also } x = \frac{30}{7} \quad \checkmark \quad (x_4, 28)$$

$$y = 0,5 \cdot \frac{30}{7} - 3 = -\frac{6}{7} \quad \text{also } A = 0,5 \cdot 3 \cdot \frac{6}{7} = \frac{9}{7} \quad \checkmark \quad (x_1, 29 \neq E)$$

4.

$$4.1 \quad \text{Graph} \quad \checkmark \checkmark \checkmark$$

$$y = 1,20x + 10 \quad \checkmark \checkmark$$

4

$$4.2 \quad \text{Tarif 1 bei 50 Stunden: } y = 70 \quad \checkmark \quad \text{Graph} \quad \checkmark$$

$$\text{also } m = 70 / 50 = 1,4 \quad \checkmark \quad \text{Preis pro Stunde 1,40 € also pro Minute 2,3 ct.} \quad \checkmark$$

4

$$4.3 \quad \text{Graph} \quad \checkmark$$

ab ca. 33 Stunden Flatrate am günstigsten. $\checkmark$

2

