

Musterlösung 1. SA / 11. Klasse

1. $T(x) = (2x-1)(2x+2) - 2(x-0,5)^2 + 4,5$

a) $T(0,5) = 0,3 - 2,0 + 4,5 = 4,5 \checkmark$

2

$T(-1) = -3,0 - 2,225 + 4,5 = -0,725 \checkmark$

b) $T(x) = 4x^2 + 4x - 2x - 2 - 2(x^2 - x + 0,25) + 4,5$

4

$= 4x^2 + 2x - 2 - 2x^2 + 2x - 0,5 + 4,5 = 2x^2 + 4x + 2 \checkmark$

2) a) A $\checkmark$ b) D $\checkmark$ c) B $\checkmark$

3

3) a) $5ab(12ab - 10a^2b^2 + 30ab^2) = 60a^2b^2 - 50a^3b^3 + 150a^2b^3$

- b) $49a^2 + 126ab + 81b^2 = (7a + 9b)^2 \checkmark$

5

c) $16x^2 - 32xy + 16y^2 = (4x - 4y)^2 \checkmark$

4) a) $2x - 8 + 9x = x^2 + 4x + 4 - (x^2 - 8x + 16) \checkmark$

$11x - 8 = x^2 + 4x + 4 - (x^2 - 8x + 16) \checkmark \Rightarrow x = 4 \checkmark \quad L = \{4\} \checkmark$

4

b) $2x^2 - 6x + 24x - 18 = 2x^2 + 18 \checkmark$

$18x = 34 \checkmark \Rightarrow x = \frac{34}{18} = \frac{17}{9} \checkmark \quad L = \left\{ \frac{17}{9} \right\} \checkmark$

3

5) $x + 1,2x + 1,2x + 180 = 2220 \checkmark$

- $3,4x = 2040 \Rightarrow x = 600 \checkmark$

4

Preisklasse A: 600
B: 720 $\checkmark$
C: 900

6) a) $A(x) = 4x \cdot 1,5x + x \cdot 0,5x + 2x \cdot 0,5x + x \cdot 2x = 9,5x^2 \checkmark$

6

b) $A(60) = 9,5 \cdot 60^2 \text{ m}^2 = 34.200 \text{ m}^2 \checkmark$

c) Fläche von A: $6x^2 \quad p = \frac{6}{9,5} \approx 63,2\% \checkmark$

 $\Sigma 31$