

Aufgabenmix 2

Aufgabe 2

$$1. f(x) = -\frac{1}{3}x + 3,5; S_y(0|3,5); -\frac{1}{3}x + 3,5 = 0 \Leftrightarrow x = 3 \cdot 3,5 \\ x = 3 \cdot 3,5 = 10,5; \underline{S_x(10,5|0)}$$

$$2. h(x) = 3 \cdot (x - 2,5) + 6 = 3x - 3 \cdot 2,5 + 6 \Rightarrow \underline{h(x) = 3x - 1,5}$$

$$3. h(x) = f(x) \Rightarrow 3x - 1,5 = -\frac{1}{3}x + 3,5 \Leftrightarrow \frac{10}{3}x = 5 \Leftrightarrow x = \frac{15}{10} = 1,5 \\ h(1,5) = 3 \cdot 1,5 - 1,5 = 3 \Rightarrow \underline{S(1,5|3)}$$

$$4. A_\Delta = \frac{1}{2} g \cdot h = \frac{1}{2} \cdot 5 \cdot 1,5 = \frac{15}{4} = \underline{3,75 \text{ [FE]}}$$

$$5. m = \frac{y_s - y_o}{x_s - x_o} = \frac{3 - (-1)}{1,5 - (-4,5)} = \frac{4}{6} = \frac{2}{3}$$

$$g(x) = \frac{2}{3}(x - (-4,5)) - 1 = \frac{2}{3}x + \frac{2}{3} \cdot 4,5 - 1 \Rightarrow \underline{g(x) = \frac{2}{3}x + 2}$$

$$6. A_1 = \frac{1}{2} g_1 h; A_2 = \frac{1}{2} g_2 h; h_1 = h_2 = h$$

$$\frac{A_1}{A_2} = \frac{\frac{1}{2} g_1 h}{\frac{1}{2} g_2 h} = \frac{g_1}{g_2} \Rightarrow \underline{\frac{A_1}{A_2} = \frac{1,5}{3,5} = \frac{3}{7}}$$

