

Name	Klasse	Datum	Seite
Lineare Funktionen			Blatt

Aufgabe 1

1. $A(2|-2); B(-2,5|1) \Rightarrow m = \frac{\Delta y}{\Delta x} = \frac{-2-1}{2-2,5} = -\frac{2}{3}$
 $t = y_A - m x_A = -2 - (-\frac{2}{3}) \cdot 2 = -\frac{2}{3} \Rightarrow \underline{f(x) = -\frac{2}{3}x - \frac{2}{3}}$

2. $S_g(0 | -\frac{2}{3}); -\frac{2}{3}x - \frac{2}{3} = 0 \Leftrightarrow x = -1; \underline{N_f(-1|0)}$

3. $f(-4) = 2; f(0,5) = -1 \Rightarrow \underline{W_s = [-1; 2]}$

4. $h: x = y + 1,5 \Leftrightarrow y = x - 1,5 = \underline{h(x)}$
 $s(x) = h(x): x - 1,5 = -\frac{2}{3}x - \frac{2}{3} \Leftrightarrow \frac{5}{3}x = \frac{5}{6} \Leftrightarrow x = \frac{1}{2}$
 $s(\frac{1}{2}) = \frac{1}{2} - 1,5 = -1 \Rightarrow \underline{S_{sk}(0,5|-1)} \in \underline{D_s!}$

5. $k: x - 2y + 10 = 0 \Leftrightarrow y = \frac{1}{2}x + 5 = \underline{k(x)}$
 $k(x) = s(x): \frac{1}{2}x + 5 = -\frac{2}{3}x - \frac{2}{3} \Leftrightarrow \frac{7}{6}x = -\frac{17}{3} \Leftrightarrow x = -\frac{34}{7}$
 $x_s = -\frac{34}{7} \approx -4,9 \notin D_s \Rightarrow \underline{\text{kein SP.}}$

6. $h(3) = 3 - 1,5 = 1,5 \Rightarrow S_{kp}(3|1,5)$
 $m_p = -\frac{2}{3} = m_p \Rightarrow \underline{p(x) = -\frac{2}{3}x + 3,5}$
 $t = y - mx = 1,5 - (-\frac{2}{3}) \cdot 3 = 3,5$

8. (7.) $k(x) > p(x) \Rightarrow \frac{1}{2}x + 5 > -\frac{2}{3}x + 3,5$
 $\Leftrightarrow \frac{7}{6}x > -\frac{3}{2} \Leftrightarrow x > -\frac{7}{9} \approx -1,29 \Rightarrow \underline{I =]-\frac{7}{9}; \infty[}$

9. $S_g(0 | -\frac{2}{3}); N_f(-1|0)$ (siehe 2.)
 $\underline{A = \frac{1}{2} \cdot 1 \cdot \frac{2}{3} = \frac{1}{3}}$

Zu Aufgabe 1

