

## Lineare Funktionen

Gegeben sind die Punkte A und B. Berechne m, b und f(x)

Lösung

1) A(0/2) B(1/5) m=\_\_\_ b=\_\_\_ f(x) = \_\_\_\_\_

$$m = \frac{5 - 2}{1 - 0} = \frac{3}{1} = 3$$

$$b = 2 - 3 \cdot 0 = 2$$

$$f(x) = 3x - 2$$

2) A(0/4) B(3/22) m=\_\_\_ b=\_\_\_ f(x) = \_\_\_\_\_

$$m = \frac{22 - 4}{3 - 0} = \frac{18}{3} = 6$$

$$b = 4 - 6 \cdot 0 = 4$$

$$f(x) = 6x - 4$$

3) A(1/20) B(4/35) m=\_\_\_ b=\_\_\_ f(x) = \_\_\_\_\_

$$m = \frac{35 - 20}{4 - 1} = \frac{15}{3} = 5$$

$$b = 20 - 5 \cdot 1 = 15$$

$$f(x) = 5x - 15$$

4) A(1/24) B(5/92) m=\_\_\_ b=\_\_\_ f(x) = \_\_\_\_\_

$$m = \frac{92 - 24}{5 - 1} = \frac{68}{4} = 17$$

$$b = 24 - 17 \cdot 1 = 7$$

$$f(x) = 17x - 7$$

5) A(1/-12) B(5/4) m=\_\_\_ b=\_\_\_ f(x) = \_\_\_\_\_

$$m = \frac{4 - (-12)}{5 - 1} = \frac{16}{4} = 4$$

$$b = -12 - 4 \cdot 1 = -16$$

$$f(x) = 4x - 16$$

6) A(1/27) B(3/55) m=\_\_\_ b=\_\_\_ f(x) = \_\_\_\_\_

$$m = \frac{55 - 27}{3 - 1} = \frac{28}{2} = 14$$

$$b = 27 - 14 \cdot 1 = 13$$

$$f(x) = 14x + 13$$

7) A(2/29) B(1/11) m=\_\_\_ b=\_\_\_ f(x) = \_\_\_\_\_

$$m = \frac{11 - 29}{1 - 2} = \frac{-18}{-1} = 18$$

$$b = 29 - 18 \cdot 2 = -7$$

$$f(x) = 18x - 7$$

8) A(0/6) B(1/-8) m=\_\_\_ b=\_\_\_ f(x) = \_\_\_\_\_

$$m = \frac{-8 - 6}{1 - 0} = \frac{-14}{1} = -14$$

$$b = 6 - (-14) \cdot 0 = 6$$

$$f(x) = -14x + 6$$

9) A(2/-31) B(1/-25) m=\_\_\_ b=\_\_\_ f(x) = \_\_\_\_\_

$$m = \frac{-25 - (-31)}{1 - 2} = \frac{6}{-1} = -6$$

$$b = -31 - (-6) \cdot 2 = -19$$

$$f(x) = -6x - 19$$

10) A(-1/-25) B(3/11) m=\_\_\_ b=\_\_\_ f(x) = \_\_\_\_\_

$$m = \frac{11 - (-25)}{3 - (-1)} = \frac{36}{4} = 9$$

$$b = -25 - 9 \cdot (-1) = -16$$

$$f(x) = 9x - 16$$

11) A(2/23) B(1/9) m=\_\_\_ b=\_\_\_ f(x) = \_\_\_\_\_

$$m = \frac{9 - 23}{1 - 2} = \frac{-14}{-1} = 14$$

$$b = 23 - 14 \cdot 2 = -5$$

$$f(x) = 14x - 5$$