

2. Mathematikstegreifaufgabe

Klasse 9

- Lösungen -

a)
$$\underline{\underline{P_n \left(x \mid \frac{3}{2}x \right)}}$$

b)
$$\underline{\underline{Q_n \left(x \mid -\frac{1}{4}x \right)}}$$

d)
$$y_{P_1} = \frac{3}{2} \cdot 4 = 6$$

$$y_{Q_1} = -\frac{1}{4} \cdot 4 = -1$$

$$\overline{P_1Q_1} = 6 + 1$$

$$\underline{\underline{\overline{P_1Q_1} = 7 \text{ LE}}}$$

e)
$$\overline{P_nQ_n} = y_{P_n} - y_{Q_n}$$

$$\overline{P_nQ_n} = \frac{3}{2}x - \left(-\frac{1}{4}x \right)$$

$$\overline{P_nQ_n} = \frac{3}{2}x + \frac{1}{4}x$$

$$\underline{\underline{\overline{P_nQ_n} = \frac{7}{4}x = 1\frac{3}{4}x}}}$$

f) Koordinaten von M:

$$M \left(4 \mid \frac{y_{P_1} + y_{Q_1}}{2} \right)$$

$$M \left(4 \mid \frac{6 + (-1)}{2} \right)$$

$$\underline{\underline{M(4 \mid 2,5)}}$$

Steigung der Geraden OM:

$$m_{OM} = \frac{y_M}{x_M} = \frac{2,5}{4} = \frac{5}{8}$$

Gleichung der Geraden OM:

$$\underline{\underline{y = \frac{5}{8}x}}$$

