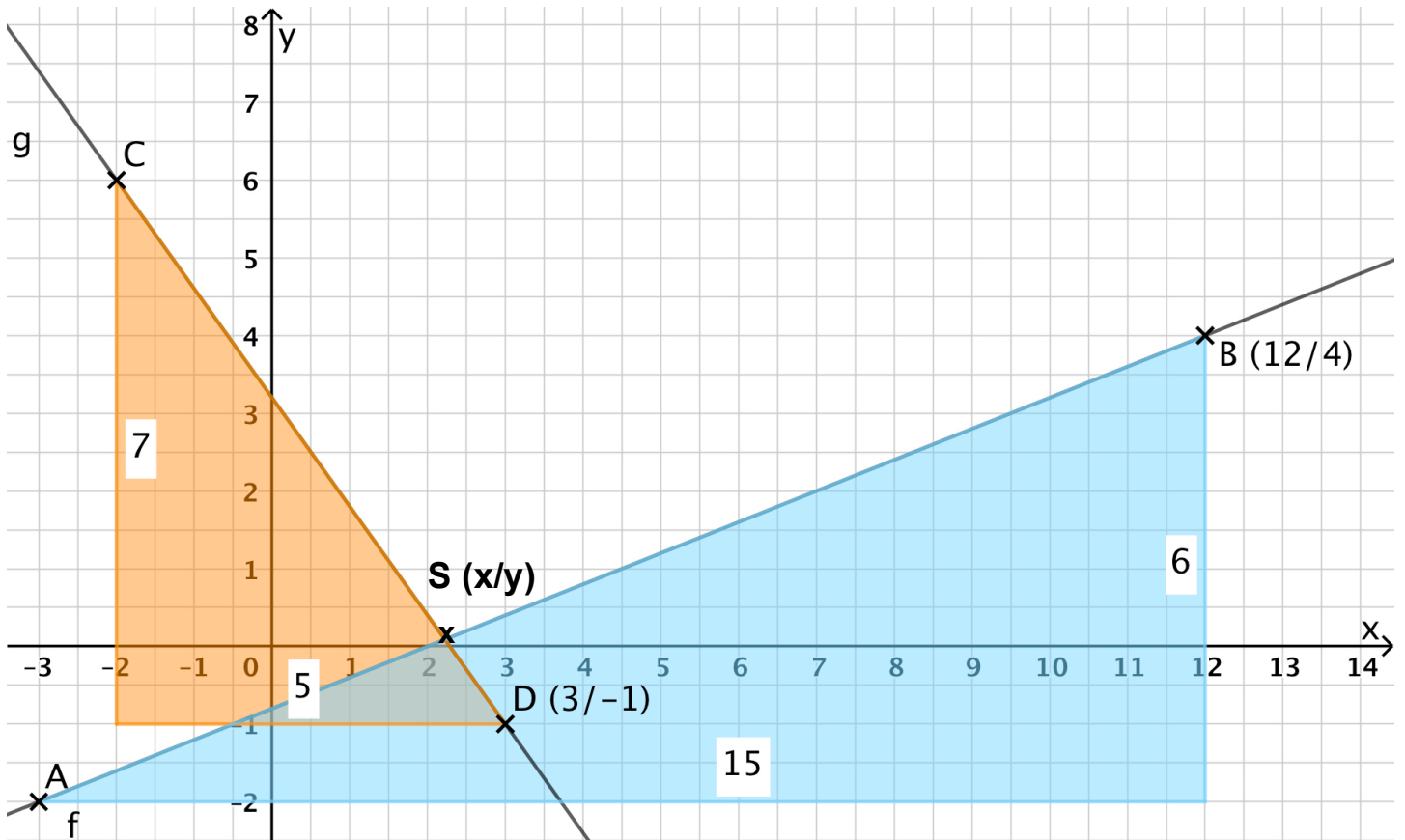


Lösung



Gerade f : $y = \frac{6}{15} \cdot x - b = \frac{2}{5} \cdot x - b$

Koordinaten des Punktes B (12/4) einsetzen :

$$4 = \frac{2}{5} \cdot 12 - b = \frac{24}{5} - b$$
$$\frac{20}{5} = \frac{24}{5} - \frac{4}{5} \Rightarrow b = -\frac{4}{5}$$

$$\Rightarrow y = \frac{2}{5} \cdot x - \frac{4}{5}$$

Gerade g : $y = -\frac{7}{5} \cdot x + b$

Koordinaten des Punktes D (3/-1) einsetzen :

$$-1 = -\frac{7}{5} \cdot 3 - b = -\frac{21}{5} - b$$

$$-\frac{5}{5} = -\frac{21}{5} + \frac{16}{5} \Rightarrow b = +\frac{16}{5}$$

$$\Rightarrow y = -\frac{7}{5} \cdot x + \frac{16}{5}$$

Schnittpunkt S : $y = \left(\frac{2}{5} \cdot x - \frac{4}{5}\right)$ $y = \left(-\frac{7}{5} \cdot x + \frac{16}{5}\right)$

$$\begin{array}{rcll} \frac{2}{5} \cdot x - \frac{4}{5} & = & -\frac{7}{5} \cdot x + \frac{16}{5} & \\ \frac{2x}{5} - \frac{4}{5} & = & -\frac{7x}{5} + \frac{16}{5} & | \cdot 5 \\ 2x - 4 & = & -7x + 16 & | +7x \\ 9x - 4 & = & 16 & | +4 \\ 9x & = & 20 & | :9 \\ x & = & \frac{20}{9} & \end{array}$$

$$\begin{aligned} \underline{y} &= -\frac{7}{5} \cdot x + \frac{16}{5} = -\frac{7}{5} \cdot \frac{20}{9} + \frac{16}{5} \\ &= -\frac{28}{9} + \frac{16}{5} = -\frac{140}{45} + \frac{144}{45} \\ &= \underline{\underline{\frac{4}{45}}} \end{aligned}$$

$$\Rightarrow S \left(\frac{20}{9} / \frac{4}{45} \right)$$