

## Klammern - 12 (Lösung)

Schreibe ohne Klammern und vereinfache:

$$\begin{aligned} \text{a) } (12a - 7b)^2 + 6a(5 - 2b) &= \\ 144a^2 - 168ab + 49b^2 + 30a - 12ab &= \\ \underline{144a^2 - 180ab + 49b^2 + 30a} \end{aligned}$$

$$\begin{aligned} \text{b) } (5x - 9y)(7y + 3x) + (11x + 8y)^2 &= \\ 35xy + 15x - 63y^2 - 27xy + 121x + 176xy + 64y^2 &= \\ \underline{194xy + 136x + y^2} \end{aligned}$$

$$\begin{aligned} \text{c) } (7w + 5u)^2 + (u - 3w)(8u + w) - (6u + w)^2 &= \\ 49w^2 + 70uw + 25u^2 + 8u^2 + uw - 24uw - 3w^2 - & \\ [36u^2 + 12uw + w^2] &= \\ 49w^2 + 70uw + 25u^2 + 8u^2 + uw - 24uw - 3w^2 - & \\ 36u^2 - 12uw - w^2 &= \\ \underline{45w^2 + 35uw - 3u^2} \end{aligned}$$

$$\begin{aligned} \text{d) } (7x - 10)(7x + 10) + 8(2x + 5)^2 &= \\ 49x^2 - 100 + 8[4x^2 + 20x + 25] &= \\ 49x^2 - 100 + 32x^2 + 160x + 200 &= \\ \underline{81x^2 + 160x + 100} \end{aligned}$$

$$\begin{aligned} \text{e) } 4(3a - 5b)^2 - 3(5a + 4b)^2 &= \\ 4[9a^2 - 30ab + 25b^2] - 3[25a^2 + 40ab + 16b^2] &= \\ 36a^2 - 120ab + 100b^2 - 75a^2 - 120ab - 48b^2 &= \\ \underline{29a^2 - 240ab + 52b^2} \end{aligned}$$