

Klammern - 13 (Lösung)

Schreibe ohne Klammern und vereinfache:

$$\begin{aligned} \text{a) } (7x + 2)^2 - (5x + 4)^2 - (6x + 3)(4x - 4) &= \\ 49x^2 + 28x + 4 - [25x^2 + 40x + 16] - & \\ [24x^2 - 24x + 12x - 12] &= \\ 49x^2 + 28x + 4 - 25x^2 - 40x - 16 - & \\ 24x^2 + 24x - 12x + 12 &= \\ 0x^2 + 0x + 0 &= \underline{0} \end{aligned}$$

$$\begin{aligned} \text{b) } (3x - 7)^2 + (4x + 9)^2 - (5x + 3)^2 &= \\ 9x^2 - 42x + 49 + 16x^2 + 72x + 81 - [25x^2 + 30x + 9] &= \\ 9x^2 - 42x + 49 + 16x^2 + 72x + 81 - 25x^2 - 30x - 9 &= \\ 0x^2 + 0x + 121 &= \underline{121} \end{aligned}$$

$$\begin{aligned} \text{c) } (8x + 6)^2 - (10x - 1)(10x + 1) + (6x - 8)^2 &= \\ 64x^2 + 96x + 36 - [100x^2 - 1] + 36x^2 - 96x + 64 &= \\ 64x^2 + 96x + 36 - 100x^2 + 1 + 36x^2 - 96x + 64 &= \\ 0x^2 + 0x + 101 &= \underline{101} \end{aligned}$$

$$\begin{aligned} \text{d) } (13y - 6)^2 - (12y - 4)^2 - (5y - 6)^2 &= \\ 169y^2 - 156y + 36 - [144y^2 - 96y + 16] - & \\ [25y^2 - 60y + 36] &= \\ 169y^2 - 156y + 36 - 144y^2 + 96y - 16 - & \\ 25y^2 + 60y - 36 &= \\ 0y^2 + 0y - 16 &= \underline{-16} \end{aligned}$$

$$\begin{aligned} \text{e) } (12x + 4)(2 + 5x) - (3 - 16x)^2 + (14x - 5)^2 &= \\ 24x + 60x^2 + 8 + 20x - [9 - 96x + 256x^2] + & \\ 196x^2 - 140x + 25 &= \\ 24x + 60x^2 + 8 + 20x - 9 + 96x - 256x^2 + & \\ 196x^2 - 140x + 25 &= \\ 0x + 0x^2 + 24 &= \underline{24} \end{aligned}$$

