

Multiplying Radicals Cont

$$\begin{aligned} \textcircled{1} \quad & \sqrt{6}(-\sqrt{3}+5\sqrt{5}) \\ & = -\sqrt{18} + 5\sqrt{30} \\ & \quad \quad \quad \uparrow \\ & \quad \quad \quad 9 \cdot 2 \\ & = \boxed{-3\sqrt{2} + 5\sqrt{30}} \end{aligned}$$

$$\begin{aligned} \textcircled{2} \quad & (-3x+3)(2x+1) \\ & = -6x^2 - 3x + 6x + 3 \\ & = \boxed{-6x^2 + 3x + 3} \end{aligned}$$

$$\begin{aligned} \textcircled{3} \quad & (3x-6)(-4x-1) \\ & = -12x^2 - 3x + 24x + 6 \\ & = \boxed{-12x^2 + 21x + 6} \end{aligned}$$

$$\begin{aligned} \textcircled{4} \quad & (1+2\sqrt{3})(-3+\sqrt{3}) \\ & = -3 + \sqrt{3} - 6\sqrt{3} + 2\sqrt{9} \leftarrow 3 \\ & = -3 - 5\sqrt{3} + 6 \\ & = \boxed{3 - 5\sqrt{3}} \end{aligned}$$

$$\begin{aligned} \textcircled{5} \quad & (-5+\sqrt{3})(-2+4\sqrt{3}) \\ & = 10 - 20\sqrt{3} - 2\sqrt{3} + 4 \cdot 3 \\ & = 10 - 22\sqrt{3} + 12 \\ & = \boxed{22 - 22\sqrt{3}} \end{aligned}$$

$$\begin{aligned} \textcircled{6} \quad & (\sqrt{3}+\sqrt{2})(2\sqrt{3}-3\sqrt{2}) \\ & = 2 \cdot 3 - 3\sqrt{6} + 2\sqrt{6} - 3 \cdot 2 \\ & = 6 - \sqrt{6} - 6 \\ & = \boxed{-\sqrt{6}} \end{aligned}$$