

$$\begin{aligned}
 a) (3-\sqrt{2})(5+\sqrt{8}) &= 15 + 3\sqrt{8} - 5\sqrt{2} - \sqrt{16} = 15 + 3\sqrt{4 \cdot 2} - 5\sqrt{2} - 4 = \\
 &= \underbrace{15 + 3 \cdot 2 \cdot \sqrt{2}} - 5\sqrt{2} - 4 = 11 + \underbrace{6\sqrt{2} - 5\sqrt{2}} = 11 + \sqrt{2}
 \end{aligned}$$

$$\begin{aligned}
 e) (4-\sqrt{3})(\sqrt{5}+6) &= 4 \cdot \sqrt{5} + 24 - \sqrt{3} \cdot \sqrt{5} - 6 \cdot \sqrt{3} = \\
 &= \underbrace{4\sqrt{5} + 24 - 6\sqrt{3}} = -2\sqrt{3} + 24 - 2 + 2\sqrt{3}
 \end{aligned}$$

$$\begin{aligned}
 b) (2+\sqrt{15})(\sqrt{5}-\sqrt{3}) &= 2\sqrt{5} - 2\sqrt{3} + \sqrt{15}\sqrt{5} - \sqrt{15}\sqrt{3} = \\
 &= 2\sqrt{5} + 2\sqrt{3} + \sqrt{75} + \sqrt{45} = 2\sqrt{5} + 2\sqrt{3} + \sqrt{25 \cdot 3} + \sqrt{9 \cdot 5} = \\
 &= \underbrace{2\sqrt{5} + 2\sqrt{3}} + 5\sqrt{3} + \underbrace{3\sqrt{5}} = 5\sqrt{5} + 4\sqrt{3}
 \end{aligned}$$