

Day 6 - Multiplying Radicals - Practice

Simplify the following radicals.

$$\begin{aligned} \text{a. } \sqrt{5} \cdot -4\sqrt{20} &= -4\sqrt{100} \\ &= -4 \cdot 10 \\ &= \boxed{-40} \end{aligned}$$

$$\begin{aligned} \text{b. } 3\sqrt{5} \cdot -2\sqrt{5} &= -6\sqrt{25} \\ &= -6 \cdot 5 \\ &= \boxed{-30} \end{aligned}$$

$$\begin{aligned} \text{c. } 5\sqrt{15} \cdot -2\sqrt{5} &= -10\sqrt{75} \\ &= -10\sqrt{3 \cdot 5 \cdot 5} \\ &= -10 \cdot 5 \sqrt{3} \\ &= \boxed{-50\sqrt{3}} \end{aligned}$$

$$\begin{aligned} \text{d. } -3\sqrt{7} \cdot 6\sqrt{12} &= -18\sqrt{84} \\ &= -18\sqrt{2 \cdot 2 \cdot 3 \cdot 7} \\ &= -18 \cdot 2 \sqrt{21} \\ &= \boxed{-36\sqrt{21}} \end{aligned}$$

$$\begin{aligned} \text{e. } 3\sqrt{12} \cdot \sqrt{6} &= 3\sqrt{72} \\ &= 3\sqrt{2 \cdot 2 \cdot 2 \cdot 3 \cdot 3} \\ &= 3 \cdot 2 \cdot 3 \sqrt{2} \\ &= \boxed{18\sqrt{2}} \end{aligned}$$

$$\begin{aligned} \text{f. } -4\sqrt{15} \cdot \sqrt{3} &= -4\sqrt{45} \\ &= -4\sqrt{3 \cdot 3 \cdot 5} \\ &= -4 \cdot 3 \sqrt{5} \\ &= \boxed{-12\sqrt{5}} \end{aligned}$$