

Sec. 10.3 Operations With Radical Expressions

like radicals: have same radicand

$$\text{ex: } 3\sqrt{7} + 5\sqrt{7} = (3+5)\sqrt{7} = 8\sqrt{7}$$

unlike radicals: $4\sqrt{3} + 2\sqrt{2} \rightarrow$ cannot simplify

Simplify

a. $3\sqrt{7} + 11\sqrt{7}$

b. $9\sqrt{10} - 5\sqrt{10}$

c. $7\sqrt{6} - 2\sqrt{54}$

d. $\sqrt{5}(\sqrt{8} + 7)$

e. $(7\sqrt{8} + 2\sqrt{11})(3\sqrt{8} - \sqrt{11})$

$$f. (2 + \sqrt{10})(2 - \sqrt{10})$$

$$g. \frac{8}{\sqrt{3} + \sqrt{11}}$$

$$h. \frac{\sqrt{5}}{2 - \sqrt{5}}$$

$$i. \frac{-1}{2 - 2\sqrt{3}}$$