

Section 5.1 Extra Practice

- Express each radical as a simplified mixed radical.
 - $\sqrt{54}$
 - $\sqrt{350}$
 - $\sqrt{98x^2}, x \geq 0$
 - $\sqrt{363x^5y^3}, x \geq 0, y \geq 0$
- Express each mixed radical as an equivalent entire radical.
 - $4\sqrt{5}$
 - $23\sqrt{13}$
 - $9x^2\sqrt{x}, x \geq 0$
 - $5xy\sqrt{7y}, x \geq 0, y \geq 0$
- Order each set of numbers from least to greatest.
 - $-2\sqrt{3}, \sqrt{50}, -\sqrt{14}, 3\sqrt{5}$
 - $\sqrt{18}, \sqrt{2}, 6\sqrt{2}, \sqrt{32}$
 - $-\sqrt{60}, -3\sqrt{\frac{5}{2}}, -\sqrt{16}, -5\sqrt{3}$
 - $4\sqrt{3}, \sqrt{12}, 2\sqrt{6}, \sqrt{20}$
- Simplify each expression.
 - $7\sqrt{11} - 3\sqrt{11} + 8\sqrt{11}$
 - $4\sqrt{3x} - 4\sqrt{2} + \sqrt{3x} - \sqrt{2}$
 - $9\sqrt{6} + 12 - \sqrt{6} + 4$
 - $6\sqrt{5} - \sqrt{7y} + 4\sqrt{5} - 3\sqrt{7y}$
- Simplify each expression.
 - $3\sqrt{20d} + 5\sqrt{45d}$
 - $\sqrt{10e} - \sqrt{90e} + 4\sqrt{40e}$
 - $5\sqrt{3} + \sqrt{12} - \sqrt{48} + 2\sqrt{75}$
 - $\sqrt{63} + \sqrt{75} - 2\sqrt{28} - 3\sqrt{27}$
- Simplify each expression. Identify any restrictions on the values of the variables.
 - $3\sqrt{x} - \sqrt{4x} + \sqrt{x}$
 - $\sqrt{x^5} + \sqrt{9x^5}$
 - $\sqrt{9x} + \sqrt{x^3} - 4\sqrt{x} - x\sqrt{9x}$
 - $x^2\sqrt{16y} + 3\sqrt{x^4y}$
- Simplify each expression.
 - $\sqrt[3]{56}$
 - $\sqrt[3]{8x^5y}$
 - $\sqrt[3]{5} - \sqrt[3]{625}$
 - $\sqrt[3]{x^3} + 4\sqrt[3]{x} - x\sqrt[3]{27} - \sqrt[3]{64x}$
- What is the perimeter of the right triangle shown? State the answer as an exact value.
 

