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 11-8 Rationalizing the denominator.....#

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**Objectives**

Multiply and divide radical expressions.  
 Rationalize denominators.

Mar 15-8:46 AM

Simplify the following:

$$\frac{\sqrt{5}}{\sqrt{16}} \cdot \frac{\sqrt{5}}{\sqrt{16}} = \frac{\sqrt{5}}{4}$$

$$\frac{10}{\sqrt{60}} = \frac{10 \cdot \sqrt{15}}{2\sqrt{15} \cdot \sqrt{15}} = \frac{10\sqrt{15}}{30} = \frac{\sqrt{15}}{3}$$

left page:

$$\frac{9 \cdot \sqrt{7}}{\sqrt{7} \cdot \sqrt{7}} = \frac{9\sqrt{7}}{7}$$

$$\sqrt{\frac{4}{12}} \sqrt{\frac{1}{3}} = \frac{\sqrt{4} \cdot \sqrt{1}}{\sqrt{12} \cdot \sqrt{3}} = \frac{2 \cdot 1}{\sqrt{36}} = \frac{2}{6} = \frac{1}{3}$$

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Simplify the following:

$$\sqrt{12} \sqrt{6} = \sqrt{72} = \sqrt{36 \cdot 2} = 6\sqrt{2}$$

$$(3\sqrt{2})^2 = 9 \cdot 2 = 18$$

$$\frac{20\sqrt{2} \cdot \sqrt{5}}{\sqrt{5} \cdot \sqrt{5}} = \frac{20\sqrt{10}}{5} = 4\sqrt{10}$$

$$(3-\sqrt{2})(4+\sqrt{2}) = 12 + 3\sqrt{2} - 4\sqrt{2} - 2 = 10 - \sqrt{2}$$

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$$\frac{-3\sqrt{2} \cdot 2}{\sqrt{6} \cdot 2} = \frac{-6\sqrt{2}}{2\sqrt{6}} = \frac{-3\sqrt{2}}{\sqrt{6}} = \frac{-3\sqrt{2} \cdot \sqrt{3}}{\sqrt{3} \cdot \sqrt{6}} = \frac{-3\sqrt{6}}{\sqrt{18}} = \frac{-3\sqrt{6}}{3\sqrt{2}} = -\sqrt{2}$$

$$\frac{-5\sqrt{4x^2} \cdot \sqrt{x}}{\sqrt{x} \cdot \sqrt{x}} = \frac{-5\sqrt{4x^2}}{\sqrt{x}} = \frac{-5 \cdot 2x}{\sqrt{x}} = \frac{-10x}{\sqrt{x}} = -10\sqrt{x}$$

Mar 15-9:02 AM

Homework:  
 11-8 worksheet

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