

Warm - Up  
3/26/19

Simplify using prime factorization

$$\sqrt{80} = \sqrt{16 \cdot 5}$$

$$\sqrt{16} \cdot \sqrt{5}$$

$$\sqrt{2 \cdot 2 \cdot 2 \cdot 2 \cdot 5}$$

$$2 \cdot 2 \cdot \sqrt{5} = 4\sqrt{5}$$

$$\sqrt{4} \cdot \sqrt{4} \cdot \sqrt{5}$$

$$4\sqrt{5}$$

P. 108

P. 109 1

P. 109 2

P. 112

P. 113

P. 114

## Simplifying and Reducing

Simplify

(1)  $\rightarrow \sqrt{8}$   
(2)  $\rightarrow \frac{\sqrt{8}}{2}$

$$\frac{\sqrt{4 \times 2}}{2} = \frac{\sqrt{4} \cdot \sqrt{2}}{2}$$

$$\frac{\cancel{2}\sqrt{2}}{\cancel{2}} = \boxed{\sqrt{2}}$$



Simplify

$$\frac{3\sqrt{50}}{\sqrt{9}} = \frac{-3\sqrt{2 \cdot 5 \cdot 5}}{\sqrt{9}}$$

$$\frac{3\sqrt{25 \times 2}}{\sqrt{9}}$$

$$\frac{\cancel{3}(5)\sqrt{2}}{\cancel{3}} = -1 \cdot 5 \sqrt{2}$$



$$\boxed{-5\sqrt{2}}$$

**Simplify**

$$\frac{\sqrt{20}}{\sqrt{5}}$$

$$\frac{\sqrt{4 \times 5}}{\sqrt{5}} = \frac{2 \sqrt{5}}{\sqrt{5}}$$

$$2$$

**Simplify**

$$\frac{3\sqrt{8}}{2}$$

$$\frac{3\sqrt{4 \times 2}}{2}$$

$$\frac{3\cancel{(2)}\sqrt{2}}{2} = \underline{3\sqrt{2}}$$



Simplify

$$\frac{\sqrt{45}}{6\sqrt{5}} = \frac{\sqrt{9 \cdot 5}}{6\sqrt{5}}$$

$$\frac{\sqrt{9} \cdot \sqrt{5}}{6\sqrt{5}} = \frac{3}{6} = \frac{\cancel{3} \cdot 1}{\cancel{3} \cdot 2} = \boxed{\frac{1}{2}}$$

**Simplify**

$$\frac{-4\sqrt{27}}{\sqrt{16}} = \frac{-4\sqrt{3 \cdot 3 \cdot 3}}{4}$$

$$\frac{-4\sqrt{9 \times 3}}{\sqrt{16}} = \frac{-4\sqrt{9} \cdot \sqrt{3}}{4}$$

$$\frac{-\cancel{4}(3)\sqrt{3}}{\cancel{4}} = -3\sqrt{3}$$





**Simplify**

$$\frac{2\sqrt{63}}{3\sqrt{28}}$$

$$\frac{\cancel{2\sqrt{9}} \cdot \cancel{\sqrt{7}}}{\cancel{3\sqrt{4}} \cdot \cancel{\sqrt{7}}} = \boxed{1}$$

Homework (due **Thursday**)

p. 113 (10-17) & p. 114 (18 - 26)

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