November 8, 2011

Warm-Up:

$$-4\sqrt{8a^2b^4c^6}$$

$= -4 \cdot 2|a|b^2|c^3|\sqrt{2}$

$= -8|a| \cdot b^2 \cdot |c^3|\sqrt{2}$

$$\sqrt{18} - \sqrt{8} + 2\sqrt{12}$$

$= 3\sqrt{2} - 2\sqrt{2} + 2 \cdot 2\sqrt{3}$

$= \sqrt{2} + 4\sqrt{3}$

$$(2-\sqrt{2})(3-\sqrt{2})$$

$= 6 - 2\sqrt{2} - 3\sqrt{2} + \sqrt{4}^2$

$= 8 - 5\sqrt{2}$

Get out your homework...

BLUE Worksheet 5

due Wed.

11/8 - Dividing Radical Expressions

$$\frac{1}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{\sqrt{2}}{2}$$

Rationalizing the denominator

$$\frac{\sqrt{2}}{2} = 1.4142135623\ldots$$

Simplify by rationalizing the denominators

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

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

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

$$= \frac{\sqrt{10}}{5}$$

$$\frac{4}{\sqrt{12}}$$

$$= \frac{4}{2\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}}$$

$$= \frac{2 \cdot 2\sqrt{3}}{2 \cdot 3}$$

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

Rationalize the denominators

$$\frac{1}{2+\sqrt{3}} \cdot \frac{2-\sqrt{3}}{2-\sqrt{3}}$$

$$= \frac{2-\sqrt{3}}{4 - 2\sqrt{3} + 2\sqrt{3} - \sqrt{3}}$$

$$= \frac{2-\sqrt{3}}{1}$$

$$= 2-\sqrt{3}$$

$$\frac{3}{4-\sqrt{5}} \cdot \frac{4+\sqrt{5}}{4+\sqrt{5}}$$

$$= \frac{12+3\sqrt{5}}{16-5}$$

$$= \frac{12+3\sqrt{5}}{11}$$

Rationalize the denominators

$$\frac{5\sqrt{3}}{\sqrt{3}+\sqrt{6}} \cdot \frac{\sqrt{3}-\sqrt{6}}{\sqrt{3}-\sqrt{6}}$$

$$= \frac{5 \cdot 3 - 5\sqrt{18}}{3 - 6}$$

$$= \frac{15 - 5 \cdot 3\sqrt{2}}{-3}$$

$$= \frac{15 - 15\sqrt{2}}{-3}$$

$$= -5 + 5\sqrt{2}$$

$$\frac{4+\sqrt{2}}{3-\sqrt{2}} \cdot \frac{3+\sqrt{2}}{3+\sqrt{2}}$$

$$= \frac{12 + 4\sqrt{2} + 3\sqrt{2} + 2}{9 - 2}$$

$$= \frac{14 + 7\sqrt{2}}{7}$$

$$= 2 + \sqrt{2}$$

Homework:

Worksheet 6/7

due Wednesday

Carlos enlarged the size of a photo to a height of 18 in. What is the new width if it was originally 3 in tall and 1 in wide?

James reduced the size of a triangle to a height of 3 in. What is the new width if it was originally 16 in wide and 12 in tall?

Homework:

Gold Worksheet 6

due