Algebra 2 Bellwork Friday, April 24, 2015 3rd hour

Rationalize each denominator. Simplify the result.

1. $\frac{12}{\sqrt{6}+4}$

2. $\frac{3+\sqrt{5}}{2-\sqrt{5}}$

3. $\frac{10}{\sqrt{3}+\sqrt{7}}$

4. $\frac{2\sqrt{6}-8}{\sqrt{5}+\sqrt{3}}$

5. $\frac{6-\sqrt[3]{4x}}{\sqrt[3]{2x^2}}$

Algebra 2 Bellwork Friday, April 24, 2015 3rd hour Answers

Rationalize each denominator. Simplify the result.

1. $\frac{12}{\sqrt{6}+4} \cdot \frac{\sqrt{6}-4}{\sqrt{6}-4} = \frac{12(\sqrt{6}-4)}{-10}$

$6-16=-10$

$= \frac{6(\sqrt{6}-4)}{-5} = \frac{6\sqrt{6}-24}{-5}$

2. $\frac{3+\sqrt{5}}{2-\sqrt{5}} \cdot \frac{2+\sqrt{5}}{2+\sqrt{5}} = \frac{11+5\sqrt{5}}{-1}$ or $-11-5\sqrt{5}$

$4-5$

3. $\frac{10}{\sqrt{3}+\sqrt{7}} \cdot \frac{\sqrt{3}-\sqrt{7}}{\sqrt{3}-\sqrt{7}} = \frac{10(\sqrt{3}-\sqrt{7})}{-4}$

$3-7=-4$

$= \frac{5(\sqrt{3}-\sqrt{7})}{-2} = \frac{5\sqrt{3}-5\sqrt{7}}{-2}$

4. $\frac{2\sqrt{6}-8}{\sqrt{5}+\sqrt{3}} \cdot \frac{\sqrt{5}-\sqrt{3}}{\sqrt{5}-\sqrt{3}}$

$5-3=2$

$-2\sqrt{18} = -6\sqrt{2}$

$= \frac{2\sqrt{30}-6\sqrt{2}-8\sqrt{5}+8\sqrt{3}}{2}$

$= \sqrt{30}-3\sqrt{2}-4\sqrt{5}+4\sqrt{3}$

5. $\frac{6-\sqrt[3]{4x}}{\sqrt[3]{2x^2}} \cdot \frac{\sqrt[3]{2^2x}}{\sqrt[3]{2^2x}} = \frac{6\sqrt[3]{4x}-\sqrt[3]{16x^2}}{2x}$

$\sqrt[3]{2^3x^3}$

$= \frac{6\sqrt[3]{4x}-2\sqrt[3]{2x^2}}{2x}$

$= \frac{3\sqrt[3]{4x}-\sqrt[3]{2x^2}}{x}$