Algebra 2 Bellwork Monday, April 27, 2015 1st

Rationalize each denominator. Simplify, assume all variables are positive.

1. $\frac{8a}{\sqrt{12a^3b^5}}$

2. $\frac{15c^3d}{\sqrt[3]{3c^7d^5e}}$

3. $\frac{7}{\sqrt[4]{7g^2h^9k^{23}}}$

4. $\frac{8P^3Q\sqrt[5]{3PQ^2}}{\sqrt[5]{4P^{11}Q^{32}R^8}}$

Algebra 2 Bellwork Monday, April 27, 2015 1st Answers

Rationalize each denominator. Simplify, assume all variables are positive.

1. $\frac{8a}{\sqrt{12a^3b^5}} \cdot \frac{\sqrt{3ab}}{\sqrt{3ab}}$

$= \frac{8a\sqrt{3ab}}{\sqrt{36a^4b^6}} = \frac{8a\sqrt{3ab}}{6a^2b^3}$

$= \boxed{\frac{4\sqrt{3ab}}{3ab^3}}$

2. $\frac{15c^3d}{\sqrt[3]{3c^7d^5e}} \cdot \frac{\sqrt[3]{3^2c^2de^2}}{\sqrt[3]{3^2c^2de^2}}$

$= \frac{15c^3d\sqrt[3]{3^2c^2de^2}}{\sqrt[3]{3^3c^9d^6e^3}}$

$= \frac{15c^3d\sqrt[3]{3^2c^2de^2}}{3c^3d^2e} = \boxed{\frac{5\sqrt[3]{9c^2de}}{de}}$

3. $\frac{7}{\sqrt[4]{7g^2h^9k^{23}}} \cdot \frac{\sqrt[4]{7^3g^2h^3k}}{\sqrt[4]{7^3g^2h^3k}}$

$= \frac{7\sqrt[4]{7^3g^2h^3k}}{\sqrt[4]{7^4g^4h^{12}k^{24}}} = \frac{7\sqrt[4]{7^3g^2h^3k}}{7gh^3k^6}$

$= \boxed{\frac{\sqrt[4]{7^3g^2h^3k}}{gh^3k^6}}$

4. $\frac{8P^3Q\sqrt[5]{3PQ^2}}{\sqrt[5]{4P^{11}Q^{32}R^8}} \cdot \frac{\sqrt[5]{4^4p^4q^3R^2}}{\sqrt[5]{4^4p^4q^3R^2}}$

$= \frac{8P^3Q\sqrt[5]{3\cdot4^4p^5q^5R^2}}{\sqrt[5]{4^5p^{15}q^{35}R^{10}}}$

$= \frac{8p^4q^2\sqrt[5]{3\cdot4^4R^2}}{4p^3q^7R^2} = \boxed{\frac{2p\sqrt[5]{3\cdot4^4R^2}}{q^5R^2}}$