

Rationalize all denominators. Simplify your answer.

1. $\frac{6g\sqrt{2}}{\sqrt{5e^3g^6}}$

2. $\frac{24c^2}{\sqrt{28c^5d^{13}}}$

3. $\frac{42j^7k^8}{\sqrt[3]{49j^{31}k^4}}$

4. $\frac{12m}{\sqrt[5]{64m^3n^{16}}}$

Answers

Bellwork Alg 2B Wednesday, September 20, 2017

Rationalize all denominators. Simplify your answer.

$$1. \frac{6g\sqrt{2}}{\sqrt{5e^3g^6}} \cdot \frac{\sqrt{5e}}{\sqrt{5e}} = \frac{6g\sqrt{10e}}{\sqrt{5^2e^4g^6}} = \frac{6g\sqrt{10e}}{5e^2g^3} = \frac{6\sqrt{10e}}{5e^2g^2}$$

$$2. \frac{24c^2}{\sqrt{28c^5d^{13}}} \cdot \frac{\sqrt{7cd}}{\sqrt{7cd}} = \frac{24c^2\sqrt{7cd}}{\sqrt{4 \cdot 7^2 c^6 d^{14}}} = \frac{24c^2\sqrt{7cd}}{2 \cdot 7c^3d^7} = \frac{12\sqrt{7cd}}{7cd^7}$$

$$3. \frac{42j^7k^8}{\sqrt[3]{49j^{31}k^4}} \cdot \frac{\sqrt[3]{7j^2k^2}}{\sqrt[3]{7j^2k^2}} = \frac{42j^7k^8\sqrt[3]{7j^2k^2}}{\sqrt[3]{7^3j^{33}k^6}} = \frac{42j^7k^8\sqrt[3]{7j^2k^2}}{7j^{11}k^2} = \frac{6k^6\sqrt[3]{7j^2k^2}}{j^4}$$

$$4. \frac{12m}{\sqrt[5]{64m^3n^{16}}} \cdot \frac{\sqrt[5]{2^4m^2n^4}}{\sqrt[5]{2^4m^2n^4}} = \frac{12m\sqrt[5]{2^4m^2n^4}}{\sqrt[5]{2^{10}m^5n^{20}}} = \frac{12m\sqrt[5]{2^4m^2n^4}}{2^2mn^4} = \frac{3\sqrt[5]{2^4m^2n^4}}{n^4}$$