

Practice Problems...

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#9 a, d, g #17
#10 b, f, g #19
#11 b, c #21
#14 b #22
15 b, d
#16 b, c

More Laws of Exponents Practice...

$$\begin{aligned} & (3x)^3 (4x)^5 \\ &= (27x^3)(1024x^5) \\ &= 27648x^8 \end{aligned}$$

$$\begin{aligned} & (x^4 y^2)^3 (x^{-2} y^2)^5 \\ &= (x^{12} y^6)(x^{-10} y^{10}) \\ &= x^2 y^{16} \end{aligned}$$

$$\frac{(x^3 y^2)^2 (x^2 y^4)^3}{(x^3 y^4)^2}$$

$\frac{1}{3} \cdot \frac{1}{2} = \frac{1}{6}$

$\frac{2}{4} \cdot \frac{1}{3} = \frac{3}{12}$

$\frac{2}{3} \cdot \frac{1}{2} = \frac{1}{3}$

$$\frac{(x^6 y^4)(x^6 y^{12})}{x^6 y^8}$$

$$x^6 y^8$$

$$\frac{x^{12} y^{16}}{x^6 y^8}$$

$$= x^6 y^8$$

$$= \frac{\frac{1}{6} + \frac{1}{3}}{\frac{4}{3} + \frac{3}{4}}$$

$$= \frac{\frac{1}{4} + \frac{1}{3}}{\frac{3}{4} + \frac{1}{3}}$$

$$\frac{(x^{1/2} y^{3/4})^{1/3} (x^{1/4} y^{2/3})^{1/2}}{(x^{5/3} y^{2/3})^{1/4}}$$

$$\frac{(x^{1/6} y^{1/4})(x^{1/8} y^{1/3})}{(x^{5/12} y^{1/6})}$$

$$x^{5/12} y^{1/6}$$

$$x^{7/12} y^{7/12}$$

$$x^{5/12} y^{1/6}$$

$$= x^{-3/12} y^{5/12}$$

$$= x^{-1/8} y^{5/12}$$

$$= \frac{y^{5/12}}{x^{1/8}} = \frac{\sqrt[12]{y^5}}{\sqrt[8]{x}}$$

PROBLEM:

Extra!
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Apply your knowledge of exponents and radicals to express the following in SIMPLEST FORM:

$$\frac{\sqrt[4]{x^5 y^7 z^{-3}} \cdot \left(\sqrt[3]{x^{-2} y^4}\right)^{-3} \cdot \sqrt[5]{y^{-5} z^{-10}}}{\sqrt[20]{x^{19} y^{-23}} \cdot \left(\sqrt[6]{x^{-5} y^2 z^{42}}\right)^2}$$

Review:

Pg. 246-248

#6, 7, 9, 10, 11, 12, 14, 15

17, 18, 19, 20, 21, 22, 24, 25, 26

28, 29, 30, 32

Practice Test: Pg. 249

#2, 3, 4, 5, 6, 7, 8

$$\sqrt[n]{x^m y} = x^{m/n} y^{1/n}$$

$$\sqrt[4]{x^7 y^{-3}} = x^{7/4} y^{-3/4}$$

Pg. 253

#20, 21, 22

23, 24, 25, 26