

UNIT 4: EXPONENTS (CH7)

Write in rational exponent form

Put on
looseleaf!

Due Tuesday

1. a) $\sqrt[4]{x^3}$

b) $\sqrt{(4xy)^3}$

c) $\sqrt[3]{x^2y}$

Write in radical form.

2. a) $(3mn)^{\frac{1}{2}}$

b) $(6x)^{\frac{4}{3}}$

c) $2x^{\frac{2}{3}}y^{\frac{1}{3}}$

Simplify. Your answers should contain only positive exponents.

3. $\left(\frac{y}{y^{-4} \cdot x^4 y^2}\right)^{-2}$

4. $\frac{(x^3 \cdot x^{-1} y^0)^4}{x^4}$

5. $\left(nm^{\frac{3}{2}}\right)^2 \cdot m^{-2} n^{\frac{1}{2}}$

6. $\left(\frac{x^{\frac{7}{4}} y^{\frac{7}{4}} \cdot y^2}{x^{\frac{1}{4}} y^{-3}}\right)^{\frac{5}{4}}$

7.) Simplify:

a) $25^{1/2}$

b) $343^{1/3}$

c) $7^{5/4} \cdot 7^{2/3}$

8.) Simplify:

a) $(x^{1/2} y^{5/4})(x y^{1/4})$

b) $x^{\frac{3}{4}} \cdot \sqrt[5]{x^2}$

c) $\sqrt{96x^5 y^7 z^2 w}$

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

9.) Simplify. Your answer should contain only positive exponents with no fractional exponents in the denominator.

a) $\frac{a^{-5} b^8 c^{11}}{a^2 b^{-7} c^{-9}}$

b) $\frac{a^{\frac{4}{5}}}{b^{\frac{-7}{5}}}$

c) $\frac{a^7 b^{-5} c^{-9}}{a^2 b^{-3} c^5}$

RADICAL FUNCTIONS

Solve each following radical equation. Determine whether each solution is extraneous.

a. $\sqrt{3x-5} - 5 = 2$

b. $\sqrt{90-x} = x$

c. $\sqrt{x-5} = \sqrt{10-2x}$

d) $\sqrt{x-2} = x+2$

e) $\sqrt{m+3} - 1 = 7$

f) $10\sqrt{9x} = 60$