Intermediate Algebra

7-1
Rational Exponents and Radical Expressions

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Laws of Exponents

$x^m \cdot x^n = $ _____

$x^m + x^n = $ _____

$(x^m)^n = $ _____

$x^{-m} = $ _____

$(x + y)^2 = $ _____

$\dfrac{x^m}{x^n} = $ _____

$x^0 = $ _____

$x^1 = $ _____

$3^{-2} = $ _____

$(x^m \cdot y^n)^k = $ _____

$x^{\frac{3}{4}} = $ _____

$x^{\frac{1}{2}} = $ _____

Definition of Rational Exponents - $x^{\frac{m}{n}} = $

Simplify.

2) $81^{\frac{1}{2}}$

12) $\left(\dfrac{8}{27}\right)^{-\frac{2}{3}}$

18) $x \cdot x^{-\frac{1}{2}}$

Simplify.

26) $\dfrac{b^{\frac{3}{4}}}{b^{-\frac{3}{2}}}$

42) $(a^3 b^9)^{\frac{2}{3}}$

60) $(27m^3 n^{-6})^{\frac{1}{3}} (m^{-\frac{1}{3}} n^{\frac{5}{6}})^6$

62) $\left[\dfrac{x^{\frac{1}{2}} y^{-\frac{5}{4}}}{y^{-\frac{3}{4}}} \right]^{-4}$

72) $a^{-\frac{n}{3}} \cdot a^{\frac{n}{2}}$

Assignment:
pg. 379
1-79 odd