

UNIT 5 WORKSHEET 1
Evaluating Simple Rational Exponents

Keep the following in mind when dealing with rational exponents.

$$a^{1/n} = \sqrt[n]{a}$$

$$a^{m/n} = (a^{1/n})^m = (\sqrt[n]{a})^m$$

Evaluate each of the following without the aid of a calculator.

A) $27^{4/3}$

B) $4^{1/2}$

C) $36^{-3/2}$

D) $(25^3)^{1/2}$

E) $32^{-2/5}$

F) $(-8)^{5/3}$

G) $\left(\frac{4}{9}\right)^{3/2}$

H) $\left(\frac{27}{8}\right)^{-1/3}$

I) $-27^{2/3}$

J) $\left(\frac{1}{8}\right)^{-2/3}$

K) $\left(\frac{27}{64}\right)^{2/3}$

L) $(64x^{12}y^{15})^{1/3}$

M) $(64^{1/2})^{-1/3}$

N) $\left[\left(\frac{16}{49}\right)^3\right]^{1/2}$

O) $\sqrt[3]{4^6}$

P) $(9x^2y^6)^{-3/2}$