

REVIEW

Powers
and
Roots

Basics of Powers

2^5 means

2^0 means

2^{-5} means

EX 1: Evaluate these.

a) 4^3

b) 5^{-2}

c) 8^0

d) 9^1

Power Rules

When multiplying powers of a like base, *add* the exponents.

$$2^3 2^5 =$$

When dividing powers of a like base, *subtract* the exponents.

$$\frac{2^7}{2^5} =$$

When a power is raised to another power, *multiply* the exponents.

$$(2^3)^4 =$$

EX 2: Evaluate these.

a) $5^3 5^4 =$

b) $(3^2)^4 =$

c) $\frac{4^7}{4^5} =$

d) $\frac{3^4}{3^7} =$

EX 3: Evaluate these.

a) $\frac{3^2 \cdot 2^4}{2^5 \cdot 3^3} =$

b) $\frac{(3^2)^3}{(2^3)^4} =$

c) $\frac{3^2 \cdot 2^4}{2^5 \cdot 3^3} =$

d) $\frac{(3^3 \cdot 2^4)^2}{(2^5 \cdot 3^2)^3} =$

Power Rules

$$b^m \cdot b^n = b^{m+n}$$

$$\frac{b^m}{b^n} = b^{m-n}$$

$$(b^m)^n = b^{m \cdot n}$$

Basics of Roots

$$\sqrt{\quad}$$

$$\sqrt[3]{\quad}$$

$$\sqrt[4]{\quad}$$

$$\sqrt[5]{\quad}$$

EX 4: Evaluate these.

a) $\sqrt[5]{32} =$

b) $\sqrt[4]{81} =$

c) $\sqrt[3]{125} =$

d) $\sqrt{10,000} =$