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:

Power Rules

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

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

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

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

Basics of Roots

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$\sqrt[3]{\ }$

$\sqrt[4]{\ }$

$\sqrt[5]{\ }$

EX 4:

Evaluate these.

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

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

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

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