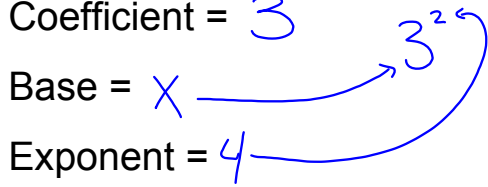


$$3x^4$$

Coefficient = 3

Base = x

Exponent = 4



Decimal Notation

$$2^4 = 2 \cdot 2 \cdot 2 \cdot 2 = 16$$

$$5^5 = 5 \cdot 5 \cdot 5 \cdot 5 \cdot 5 = 3,125$$

$$10^7 = 10 \cdot 10 \cdot 10 \cdot 10 \cdot 10 \cdot 10 \cdot 10 = 10,000,000$$

Product of Powers

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

Part 1 → Simplify the expression, write your answer using exponents

1. $(10^6)10^5 = 10^{11}$

2. $(6^8)6^5 = 6^{13}$

3. $(k^4)k^9 = k^{13}$

Multiplying Monomials

$$(3x^4z^6)(-6y^4) = -18x^4y^4z^6$$

1st: Multiply your coefficients

2nd: Put your bases in ABC order

3rd: Add exponents of like bases

Part 2 → Simplify each product

4. $(-13b^7)(2bf^4)$

$$-26b^8f^4$$

5. $(3x^a y^b z^c)(-y^f z^g)$

$$-3x^a y^{b+f} z^{c+g}$$

Part 3 → Volume and word problems

6. The volume of a pyramid is $V = \frac{1}{3}lwh$.
Find the volume using
The given values of l, w and h.

$$l = 6x^3$$

$$w = 2x^2$$

$$h = 3x$$

$$V = \frac{1}{3}(l)(w)(h)$$

$$V = \frac{1}{3}(6x^3)(2x^2)(3x)$$

$$V = \frac{1}{3}(36x^6)$$

$$V = 12x^6$$

|x'