(EXPONENT)^{RULES}

Multiplying Powers

To multiply powers with the same base, keep the base the same and **add** the exponents.

$$a^m \times a^n = a^{m+n}$$

1. Evaluate:

a) [illegible] b) [illegible] c) [illegible]

Dividing Powers

To divide powers with the same base, keep the base the same and **subtract** the exponents.

$$a^m \div a^n = a^{m-n}$$

2. Evaluate:

a) [illegible] b) [illegible] c) [illegible]

Power of a Power

To simplify a power of a power, keep the base the same and **multiply** the exponents.

$$(a^m)^n = a^{m \times n}$$

3. Evaluate:

a) [illegible] b) [illegible] c) [illegible]

Zero Exponents

Any base raised to an exponent of zero equals **1**.

$$a^0 = 1$$

4. Evaluate:

a) [illegible] b) [illegible] c) [illegible]

Negative Exponents

Any base raised to a negative exponent is equal to the **reciprocal** of the base raised to a positive exponent.

$$a^{-m} = \frac{1}{a^m} \qquad \frac{1}{a^{-m}} = a^m$$

5. Evaluate:

a) [illegible] b) [illegible] c) [illegible]

Simplifying Expressions

Simplify.

a) [illegible] b) [illegible]

c) [illegible] d) [illegible]

e) [illegible] f) [illegible]