Properties of Exponents

Product of powers

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

Power of a Power

$$(a^m)^n = a^{mn}$$

Power of a Product

$$(ab)^m = a^m b^m$$

Power of a Monomial

$$(a^m b^n)^p = a^{mp} b^{np}$$

Negative exponent property

$$a^{-m} = \frac{1}{a^{m}}, a \neq 0$$

$$a^{-5} = \frac{1}{a^{5}}$$

$$a^{-10} =$$

$$\frac{1}{a^{-12}} =$$

Zero exponent property

$$a^0 = 1, a \neq 0$$

$25^0 =$

$72^0 =$

Quotient of powers property

$$\frac{a^m}{a^n} = a^{m-n}, a \neq 0$$

Power of a quotient property

$$\left(\frac{a}{b}\right)^m = \frac{a^m}{b^m}, b \neq 0$$

$$\frac{rs^2}{(rs^{-1})^3}$$

$$(-y^2)^5 y^2 y^{-12}$$