

— NEGATIVE EXPONENTS AND ZERO EXPONENTS —

The **Negative Exponent Property** helps you simplify expressions that have negative exponents. It states that you can write a power with a negative exponent as a fraction with 1 in the numerator and a positive exponent in the denominator.

$$x^{-n} = \frac{1}{x^n}$$

Let's try it! Simplify 8^{-3} using the Negative Exponent Property.

$$8^{-3} = \frac{1}{8^3}$$

The **Zero Exponent Property** helps you simplify expressions that have a nonzero base raised to the zero power. It states that any nonzero base raised to the zero power is 1.

$$x^0 = 1$$

Let's try it! Simplify 7^0 using the Zero Exponent Property.

$$7^0 = 1$$

Try it yourself! Use the properties above to simplify each expression.

$3^{-4} = \underline{\hspace{2cm}}$

$2^0 = \underline{\hspace{2cm}}$

$6^{-5} = \underline{\hspace{2cm}}$

$4^0 = \underline{\hspace{2cm}}$

$13^0 = \underline{\hspace{2cm}}$

$9^{-3} = \underline{\hspace{2cm}}$

$12^{-7} = \underline{\hspace{2cm}}$

$1^0 = \underline{\hspace{2cm}}$

$22^0 = \underline{\hspace{2cm}}$

$19^{-6} = \underline{\hspace{2cm}}$

$13^{-2} = \underline{\hspace{2cm}}$

$250^0 = \underline{\hspace{2cm}}$

$0.8^0 = \underline{\hspace{2cm}}$

$20^{-1} = \underline{\hspace{2cm}}$

$1.6^0 = \underline{\hspace{2cm}}$

$5^{-8} = \underline{\hspace{2cm}}$

$\left(\frac{12}{7}\right)^0 = \underline{\hspace{2cm}}$

$77^{-9} = \underline{\hspace{2cm}}$