Name _____ Date _____

Properties of Exponents - Guided Lesson Explanation

Explanation#1

To divide powers with the same base, subtract their exponents. A negative exponent can be written as a positive in the denominator.

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

divide the numerator by the denominator.

$\frac{t^{-6}}{t^5}$

$t^{-6\ -5}$ divide the t's remembering to subtract the exponents

t^{-11}

finally, express your answer using positive exponents.

t^{-11}

$\frac{1}{t^{11}}$

Explanation#2

To multiply powers with the same base, add their exponents. A negative exponent can be written as a positive exponent in the denominator.

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

multiply the r 's, remembering to add the exponents

$a^{-3} \times a^{-3} \times a^{-8}$ $a^{(-3 + -3 + -8)}$

a^{-14}

Finally, express your answer using positive exponents.

a^{-14}

$\frac{1}{a^{14}}$

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Explanation # 3

To divide powers with the same base, subtract their exponents. A negative exponent can be written as a positive in the denominator.

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

$\frac{n^{-12}}{n^7}$

$n^{-12\ -7}$ divide the t's remembering to subtract the exponents

n^{-19}

finally, express your answer using positive exponents.

n^{-19}

$\frac{1}{n^{19}}$