Negative Exponent Law

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A power with a negative exponent becomes a fraction

Ex 4^{-2}

$= \frac{4^{-2}}{1}$

$= \frac{1}{4^2}$

$= \boxed{\frac{1}{16}}$

STEP 1 make a fraction

STEP 2 flip the fraction and change the exponent to a positive

STEP 3 solve!

Ex #2

(a) $2^{-5} = \frac{1}{2^5} = \boxed{\frac{1}{32}}$

(b) $76^{-1} = \frac{1}{76^1} = \boxed{\frac{1}{76}}$

Ex #3

$\left(\frac{3}{-2}\right)^{-2}$

$= \left(\frac{-2}{3}\right)^{2}$

* If the base is a fraction, flip the fraction and change the exponent to a positive *

$= \frac{(-2)^2}{3^2} = \boxed{\frac{4}{9}}$

Ex #4

$$\left[(-2)^{2}\right]^{-3} \times (-2)^2$$

$= (-2)^{-6} \times (-2)^2$

$= (-2)^{-6+2} = (-2)^{-4} = \frac{1}{(-2)^4} = \boxed{\frac{1}{16}}$