TOPIC: NEGATIVE EXPONENTS

Negative Exponents

◆ A negative exponent tells us to _____ the expression (write as *reciprocal*).

Name	Example	Rule	Description
Negative Exp. Rule	$\frac{2^2}{2^5} =$	$a^{-n} = \frac{1}{a^n}$ $\frac{1}{a^{-n}} = a^n$	Neg exp in ***top*** ⇒ flip to **[BOTTOM | TOP]** with pos exp Neg exp in ***bottom*** ⇒ flip to **[BOTTOM | TOP]** with pos exp

EXAMPLE Simplify each exponential expression without any negative exponents.

(*A*) 6^{-2}

(*B*) $\frac{1}{x^{-3}}$

PRACTICE Rewrite the expression with **NO** negative exponents.

(*A*) 10^{-1}

(*B*) y^{-8}

(*C*) $\frac{1}{5^{-3}}$

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PRACTICE Simplify (**NO** negative exponents).

(***A***) -6^{-2}

(***B***) $9z^{-6}$

(***C***) $2^{-1}+4^{-1}$

PRACTICE Simplify (**NO** negative exponents).

(***A***) $2^{-1}\cdot 2^{4}$

(***B***) $a^{3}\cdot a^{-7}\cdot a^{5}$

(***C***) $\dfrac{3^{-4}}{5^{-2}}$

EXAMPLE Simplify.

$(7x^{-4}y)(-x^{-3}y^{-2})$