

# A. Exponent Rules Practice

WHAT DID THE LEFT HAND SAY TO THE RIGHT HAND?

Simplify each expression using the rules of exponents. Show all work.

**1.**  $4x^2y^5(7xy^{-3})$

**2.**  $-2x^5y^3(-2x^3y^4)^2$

**3.**  $27x^5y^{-3}(3x^2y^{-3})^{-2}$

**4.**  $\frac{16x^9y^4}{4x^5y} \cdot (-3x^2y^3)^2$

**5.**  $\frac{3x^3y^{12}}{6x^3y^5} \cdot 6x^2y$

**6.**  $16x^4y^2(2xy^{-3})^{-3} + 4xy^{11}$

**7.**  $\left(\frac{-4x^4y^{-2}}{2x^5y^{-4}}\right)^2 \cdot (5xy^2)^2$

**8.**  $\frac{21x^2y^6}{28x^3y^2} + \left(-\frac{1}{4}x^{-1}y^4\right)$

**9.**  $2x^3y^{-3}(3x^2y^{-1})^3\left(\frac{1}{2}x^4y^6\right)$

**10.**  $(xy^{-3})^{-2}(4x^4y^{-3}) - (2x^5y^{-2})(x^{-3}y^5)$

**11.**  $(4x^3y^2z)^2(2xyz^{-2})$

**12.**  $\left(\frac{6x^{-1}y^{-8}}{18x^3y^2}\right)^{-2}$

**13.**  $-3x^{-6}y^2(5x^3y^{-1})^2$

**14.**  $(2x^{-4}y)^{-3}(64x^{-4}y^{18}) - (-5x^8y^{15})$

**15.**  $\frac{(2x^2y^4)^3}{(4x^{-3}y^2)^2}$

**16.**  $\frac{(3x^{-3}y^2)^{-2}}{(x^{-3}y^2)^4} \cdot 18y^{12}$

ANSWER  
BANK

W	$27x^{13}$
C	$4x^3y$
D	$6xy^{11}$
T	$32x^7y^5$
F	$\frac{1}{2}x^{-1}y^4$
A	$-75$
B	$13x^8y^{15}$
P	$8y^5$
I	$3xy^3$
S	$2x^2y^3$
	$3x^2y^8$
G	$2x^{18}$
Y	$100y^8$
E	$9x^8y^{20}$
L	$\frac{1}{2}x^{12}y^8$
H	$36x^8y^9$
O	$28x^3y^2$
R	$-8x^{11}y^{11}$

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13	15	9	13	7	10	5	14	12	5	2	3	16	4	11	11	4	11
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