

AA PREP—OPERATIONS WITH EXPONENTS—WORKSHEET #2

1. **BASICS.** Simplify each expression, assuming that no variable equals zero. Write answers with positive exponents only!

a) $(4x)^0$	b) $x^7 \cdot x$	c) $\frac{x^8}{x^{10}}$	d) $(x^4)^3$
e) $x^4 x^4 x^4$	f) $\frac{x^4}{x^{-3}}$	g) $4x^0$	h) $(x^3 y^5)^2$
i) $(-2x^5)(4x^7)$	j) $\frac{x^{-3}}{x^{-4}}$	k) $\left(\frac{x}{x^6}\right)^{-3}$	l) $2x^6(5x)^3$

2. **MORE COMPLICATED.**

Simplify each expression, assuming that no variable equals zero. Write answers with positive exponents only!

a) $3x^4 y^8 \cdot -4x^{11} y$	b) $(-2x^7 y^3)^4$
c) $(4xy^9)(-10x^3 y^7)$	d) $(-3x^5 y^4)^3 (-2x^0 y^6)^2$
e) $\frac{27x^4 y^{-7}}{81x^{-2} y}$	f) $\frac{2^{-3} x^{-9} y^{-1}}{-4x^{-6} y^0}$
g) $\left(\frac{64^{\frac{1}{2}} x^{-4}}{-2(3x)^2}\right)^{-2}$	h) $\left(\frac{4x^{-3}}{8(2x^5)^3}\right)^{-2} \cdot (-2x^4 y)^{-3}$