

Name : \_\_\_\_\_

Date: \_\_\_\_\_

### WS 1.7 Mixed Exponents Review

1. Simplify the following products.

a.  $x^5 \cdot x^2$

b.  $x^5y^3 \cdot x^2y^3$

c.  $(4x^3)(x^5)$

d.  $(-5a^4)(3a^2)$

2. Simplify the following products.

a.  $(3a^3b^2)(4ab)$

b.  $(2b^2c^3)(3b^5c^5)$

c.  $(3x^5)(2x)$

d.  $(4x^5)(xy^3)(x^2y^3)$

3. Simplify the following quotients.

a.  $\frac{x^8}{x^3}$

b.  $\frac{x^8}{x^{13}}$

c.  $\frac{2^3x^8}{4^2x^8}$

d.  $\frac{8a^2b}{12a^2b^4}$

4. Simplify the following quotients.

a.  $\frac{(4x^3)(x^5)}{(4x)(-2x)}$

b.  $\frac{16a^2b}{4a^2b^2}$

5. Simplify the following expressions using the laws of exponents.

a.  $(3x)^2$

b.  $(4x^3y^4)^2$

c.  $\left(\frac{2x^3}{y^4}\right)^2 \left(\frac{7y}{x}\right)^3$

d.  $(3x^2)^{-1}(2x^3)^{-2}$

6. Simplify the following exponential expressions.

a.  $\left(\frac{3x}{2x^4}\right)^2$

b.  $(x^2y^{-4}z^6)^{-2}$

c.  $\left(\frac{a^4}{2b^{-2}}\right)^{-3} \left(\frac{(2b^2)^3}{a^8}\right)^{-2}$