Exponent Rules:

1. Product

$$a^m a^n = a^{m+n}$$

2. Quotient

$$\frac{a^m}{a^n} = a^{m-n}$$

(where $m > n$)

3. Power to a power

$$(a^m)^n = a^{mn}$$

4. Product to a power

$$(ab)^m = a^m b^m$$

5. Quotient to a power

$$\left(\frac{a}{b}\right)^m = \frac{a^m}{b^m}$$

Exponents Worksheet

I. Find the indicated products and quotients; express results using positive integral exponents only

1. $(2xy^{-1})(3x^{-2}y^4) =$

2. $w^{-8}w^5w^{-1} =$

3. $\dfrac{63x^2y^{-4}}{7xy^{-4}} =$

4. $\left(\dfrac{2}{3}\right)^{-1} + 4^{-1} - \left(\dfrac{1}{4}\right)^{0} =$

5. $\left(\dfrac{6x^{2/3}}{7y^{2/3}}\right)^{2} =$

6. $-9m^5r\left(\dfrac{3m^{-2}t^3}{4t^6}\right)^{-3} =$