

**Coefficients      Exponents**

1) Fill in the chart with the proper operation to perform for both coefficients and exponents.

multiply		
raise to a power		
divide		

2) In your own words, explain what to do with anything raised to a negative exponent.

3) What is the exception to the “move it” part of the “move it or leave it” process?

Simplify the following by multiplying, dividing or raising to a power. Use the chart from above and be sure to watch out for negative exponents.

4) \_\_\_\_\_  $(c^5)(c^2)(c^3)$

5) \_\_\_\_\_  $(-11ab^4)(-5a^2b^2)$

6) \_\_\_\_\_  $\frac{9y^{12}}{36y^8}$

7) \_\_\_\_\_  $\frac{-14wz^5}{16w^3z^3}$

8) \_\_\_\_\_  $(r^4t^2)^3$

9) \_\_\_\_\_  $(-5m^7)^3$

10) \_\_\_\_\_  $\frac{xy^{-2}}{x^{-1}y^6}$

11) \_\_\_\_\_  $\frac{10b^{-3}}{(5b)^{-2}}$

12) \_\_\_\_\_  $3(2n^5)^3$

13) \_\_\_\_\_  $\frac{2d^4}{(6d^4)^2}$

14) \_\_\_\_\_  $\frac{9xy}{x^{-3}y^7}$

15) \_\_\_\_\_  $\left(\frac{1}{3p^2}\right)^{-2}$

16) \_\_\_\_\_  $(8w)(-2wh)(-3h^6)$

17) \_\_\_\_\_  $(11q)^{-2}$

18) \_\_\_\_\_  $(5v^3)^2 \cdot (-2v)^5$

19) \_\_\_\_\_  $\left(\frac{2y^9}{6y^7}\right)^3$

20) \_\_\_\_\_  $\frac{4x^{-1}}{(3x)^{-1}y}$

21) \_\_\_\_\_  $(4mn^{-3})^3$

22) \_\_\_\_\_  $\frac{(10x^6)(9x^4)}{(45x)^0}$

Answer key:	4) $c^{10}$	5) $55a^3b^6$	6) $\frac{y^4}{4}$
7) $-\frac{7z^2}{8w^2}$	8) $r^{12}t^6$	9) $-125m^{21}$	10) $\frac{x^2}{y^8}$
11) $\frac{250}{b}$	12) $24n^{15}$	13) $\frac{1}{18d^4}$	14) $\frac{9x^4}{y^6}$
15) $9p^4$	16) $48w^2h^7$	17) $\frac{1}{121q^2}$	18) $-800v^{11}$
19) $\frac{y^6}{27}$	20) $\frac{12}{y}$	21) $\frac{64m^3}{n^9}$	22) $90x^{10}$