\* Expanded Distribution Property of Exponents — when a quotient (fraction) raised to a power, then both the numerator and denominator are raised to that power.

$$\frac{(a)^{3}}{(b)^{3}} = \frac{a^{3}}{b^{3}} \qquad \frac{ex}{(y)^{2}} = \frac{5^{2}}{y^{2}} = \frac{35}{y^{2}}$$

\* Quotient Property of Exponents — to divide the same base, you subtract the exponent in the denominator from the exponents in the numerator.

$$\frac{e_{x}}{3^{4}} = 3^{7-4} = 3^{3}$$
  $\frac{e_{x}}{5^{6}} = 5^{3-6} = 5^{-3}$ 

\* Negative Exponent property – negative exponents indicate reciprocals.

$$(2^{n})^{5^{-3}} = \frac{1}{5^{3}}$$
  $(1^{n})^{1} = \frac{3^{n}}{5^{n}} =$ 

1. Complete the following statements and simplify.

4.) Complete this statement  

$$\frac{V^{k}}{V^{k}} = V^{(k-\lambda)}$$

$$\frac{V^{k}}{V^{k}} = V^{k}$$

$$\frac{V^{k}}{V^{k}}$$

2. Write the fraction in simplest form.



3. Simplify this expression. If the answer contains exponents, all exponents should be positive.



4. Complete this expression and simplify.

a.) 
$$Z^{\circ} = [1]$$
 \* any thing, but 0, raised to 0 power = ].  
b.)  $(\Im_{y+\Im})^{\circ} = [1]$   
c.)  $\Im^{\circ} = [1]$   
d.)  $\Im^{3} = [0]$  \* Zero raised to any power, but 0,  
equals 0.  
\*  $\Im^{\circ} =$  undefined

5. Simplify the following expression.



6. Simplify.  $-18 \chi^{\circ}$ 

7. Complete the expression and simplify.

a) 
$$43^{16} = \frac{1}{43^{16}}$$
  
b)  $17z^{-2} = \frac{17}{z^{2}}$   
c)  $(\frac{3}{7})^{-3} = (\frac{7}{3})^{3}$   
c)  $(\frac{7}{3})^{-3} = (\frac{7}{3})^{-3}$   
c)  $(\frac{7}{3})^{-3}$   
c)  $(\frac{7}{3})^{-$ 

8. Simplify the expression. If a variable has an exponent, it should be positive.



9. Simplify the expression completely.



- \* Seperate the numbers from the variables
- \* Divide the numbers.
- \* For variable, top exponent bottom exponent.
- \* Then Sharker (-) expanent, so more it to the bottom of fraction to maker (+) expanent.

10. Simplify the expression completely.



\* since the z'has as (-) exponent, more it to the bottom of the fraction