## Math 9: Exponent Rules Quiz

## Answer the following questions to the best of your ability!

1) Write as a power:

a) 
$$6^3 \times 6^7 =$$

**b)** 
$$(-4)^2 \times (-4)^5 =$$

**a)** 
$$6^3 \times 6^7 =$$
 \_\_\_\_\_ **b)**  $(-4)^2 \times (-4)^5 =$  \_\_\_\_\_ **c)**  $25^3 \times 25^7 =$  \_\_\_\_\_

**d)** 
$$3^0 \times 3^4 =$$
\_\_\_\_\_

**d)** 
$$3^0 \times 3^4 =$$
 \_\_\_\_\_ **e)**  $(-5) \times (-5) =$  \_\_\_\_\_ **f)**  $(-10)^2 \times (-10)^3 =$  \_\_\_\_\_

f) 
$$(-10)^2 \times (-10)^3 =$$
\_\_\_\_\_

2) Write as a power:

a) 
$$7^{10} \div 7^5 =$$
\_\_\_\_\_

**a)** 
$$7^{10} \div 7^5 =$$
 \_\_\_\_\_ **b)**  $(-3)^{10} \div (-3)^2 =$  \_\_\_\_\_

**c**) 
$$9^6 \div 9 =$$
\_\_\_\_\_

d) 
$$\frac{8^{12}}{8^6}$$
 = \_\_\_\_\_

d) 
$$\frac{8^{12}}{8^6} =$$
 e)  $\frac{(-2)^4}{(-2)} =$ 

f) 
$$\frac{(-5)^7}{(-5)^4} =$$
\_\_\_\_\_

3) Evaluate. Write your answer in standard form.

a) 
$$3^5 \times 3^0 =$$
\_\_\_\_\_

**b)** 
$$(-4)^4 \div (-4)^3 =$$

4) Write as a power.

a) 
$$5^6 \times 5^6 \div 5^4 =$$
\_\_\_\_\_

**a**) 
$$5^6 \times 5^6 \div 5^4 =$$
 **b**)  $(-6)^9 \div (-6)^4 \times (-6)^3 =$  \_\_\_\_\_

c) 
$$(-3) \times (-3)^4 \times (-3)^8 =$$
 d)  $6^{12} \div 6^5 \div 6^2 =$ 

**d**) 
$$6^{12} \div 6^5 \div 6^2 =$$

e) 
$$\frac{8^5 \times 8^2}{9^3 \times 9^1} =$$
\_\_\_\_\_

e) 
$$\frac{8^5 \times 8^2}{8^3 \times 8^1} = \frac{(-2)^3 \times (-2)^2}{(-2)^3 \times (-2)} = \frac{(-2)^3 \times (-2)^2}{(-2)^3 \times (-2)^3} = \frac{(-2)^3 \times (-2)^3}{(-2)^3 \times (-2)^3} = \frac{(-2)^3 \times (-2)^3}{(-2)^3} = \frac{(-2)^3 \times (-2)^3}{(-2)^3} = \frac{(-2)^3 \times (-2)^3}{(-2)^3} = \frac{(-2)^3$$

5) Write as a power and then evaluate in standard form.

a) 
$$5^4 \times 5^7 \div 5^8 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$$

**a)** 
$$5^4 \times 5^7 \div 5^8 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$$
 **b)**  $(-8)^5 \div (-8)^4 \times (-8)^2 = \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$ 



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