

### Exponents and Powers-1

1. Fill in the blanks:

- a.  $3^4$  means three multiplied by itself four times.  
 $3^4 = 3 \times 3 \times 3 \times 3 = 81$
- b.  $2^6$  means \_\_\_\_\_ multiplied by itself \_\_\_\_\_ times.  
 $2^6 = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$
- c.  $8^2$  means \_\_\_\_\_ multiplied by itself \_\_\_\_\_ times.  
 $8^2 = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$
- d.  $4^4$  means \_\_\_\_\_ multiplied by itself \_\_\_\_\_ times.  
 $4^4 = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$
- e.  $9^3$  means \_\_\_\_\_ multiplied by itself \_\_\_\_\_ times.  
 $9^3 = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

2. Identify the *base* and the *exponent* in the following exponential terms:

- a.  $(\frac{-5}{6})^3$ : Base = \_\_\_\_\_ and Exponent = \_\_\_\_\_
- b.  $(-5)^3$ : Base = \_\_\_\_\_ and Exponent = \_\_\_\_\_
- c.  $(13)^{-4}$ : Base = \_\_\_\_\_ and Exponent = \_\_\_\_\_
- d.  $(5.7)^{-6}$ : Base = \_\_\_\_\_ and Exponent = \_\_\_\_\_
- e.  $(\frac{6}{7})^4$ : Base = \_\_\_\_\_ and Exponent = \_\_\_\_\_

3. Write each of the following in the exponential form:

- a.  $x \times x \times x \times y \times y = \underline{\hspace{2cm}}$
- b.  $8 \times 8 \times 8 \times 8 \times 8 \times 8 = \underline{\hspace{2cm}}$
- c.  $(-14) \times (-14) \times (-14) \times z \times z = \underline{\hspace{2cm}}$

d.  $\frac{-2}{3} \times \frac{-2}{3} \times \frac{-2}{3} \times \frac{-2}{3} = \underline{\hspace{2cm}}$

e.  $(-2) \times (-2) \times (-2) \times (-2) \times (-2) = \underline{\hspace{2cm}}$

4. Write each of the following in expanded form:

a.  $(-10)^2 = \underline{\hspace{2cm}}$

b.  $(12)^3 = \underline{\hspace{2cm}}$

c.  $(\frac{-7}{9})^4 = \underline{\hspace{2cm}}$

d.  $(0.7)^3 = \underline{\hspace{2cm}}$

e.  $(\frac{4}{5})^7 = \underline{\hspace{2cm}}$

f.  $(3.4)^6 = \underline{\hspace{2cm}}$

5. Complete the following table:

Exponential Form	Exponent/Power	Base	Expanded Form	Standard Form
$5^4$	4	5	$5 \times 5 \times 5 \times 5$	625
$6^3$				
$(-3)^2$				
$-3^2$				
$10^2$				
$-4^3$				
$(-4)^3$				