

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				
$(-4)^3$				