Name: \_\_\_\_\_

Date: \_\_\_\_\_

## Worksheet 2-1: Exponents & Powers

## **Exponent Review:**

Exponential Form  $2^4 = 2 \times 2 \times 2 \times 2$  Product Form of the Power = 16 Standard Form of the Power

> $2^4$  is called the power, where **2** is the base of the power and **4** is the exponent of the power

1. Identify the base and exponent for each of the following powers.

(a) $2^3$	(b) $5^{12}$	(c) $12^5$	(d) $2^{123}$
Base =	Base =	Base =	Base =
Exponent =	Exponent =	Exponent =	Exponent =
(e) $(-2)^{43}$	(f) $(-5)^7$	$(g) (-11)^5$	(h) $(-3)^{-123}$
Base =	Base =	Base =	Base =
Exponent =	Exponent =	Exponent =	Exponent =

## 2. Write each expression as a power.

(a) 10×10×10	(b) $2 \times 2 \times 2$	(c) $(5)(5)(5)(5)$
Base =	Base =	Base =
Exponent =	Exponent =	Exponent =
Power =	Power =	Power =
(d) $(3)(3)(3)(3)(3)$	(e) (-2)(-2)	(f) $(-4)(-4)(-4)(-4)$
Base =	Base =	Base =
Exponent =	Exponent =	Exponent =
Power =	Power =	Power =

## 3. Identify the base and exponent of each power and write the power in product form.

(a) $7^3$	(b) $(-7)^3$	(c) $-7^3$
Base =	Base =	Base =
Exponent =	Exponent =	Exponent =
Product =	Product =	Product =

Assigned Work: WS 2-1; Textbook : Read p. 112-113, Do p. 114 #1-3, #5 (a to c), #6 (a to c), #8

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(d) $6^4$	$(e)(-6)^4$	$(f) - 6^4$	
Base =	Base =	Base =	
Exponent =	Exponent =	Exponent =	
Product =	Product =	Product =	
(g) $a^2$	(h) $(-a)^2$	(i) $-a^2$	
Base =	Base =	Base =	
Exponent =	Exponent =	Exponent =	
Product =	Product =	Product =	

4. Evaluate the following powers using a scientific calculator. (a)  $2^5$  (b)  $3^7$  (c)  $(-5)^3$ 

(d) 
$$-5^3$$
 (e)  $-4^4$  (f)  $(-4)^4$ 

5. Evaluate. Show your steps. \*\*Apply BEDMAS\*\* (a)  $2^3 + 4^2 - 5^2$  (b)  $(-2)^5 + 2^3 \div 8$ 

(c) 
$$7^2 \times 2^3 \div (3^3 + 22)$$
 (d)  $(-4)^3 - (3^2 \div 27)$ 

**Answers: 4.** (a) 32, (b) 2187, (c) 
$$-125$$
, (d)  $-125$ , (e)  $-256$ , (f) 256; **5.** (a)  $-1$ , (b)  $-31$ , (c) 8, (d)  $-64\frac{1}{3}$