Lesson 2.1: What Is a Power?

- 1. Identify the base of each power.
 - a) 6^3

b) 2⁷

c) $(-5)^4$

- **d)** -7^0
- 2. Use repeated multiplication to show why 3^5 is not the same as 5^3 .
- 3. Complete this table.

Power	Base	Exponent	Repeated Multiplication	Standard Form
4 ⁴				
$(-10)^3$				
	-6	2		
			$1 \times 1 \times 1 \times 1 \times 1$	

4. Write each product as a power, then evaluate.

a)
$$6 \times 6$$

b)
$$3 \times 3 \times 3 \times 3 \times 3 \times 3$$

c)
$$10 \times 10 \times 10 \times 10$$

$$\mathbf{d)} \ -(8\times8\times8)$$

5. Write each power as repeated multiplication, then evaluate.

a)
$$7^5$$

c)
$$-9^3$$

d)
$$(-5)^5$$

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- **6.** Evaluate each power. For each power:
 - Are the brackets needed?
 - If your answer is yes, what purpose do the brackets serve?
 - a) $(-6)^5$
 - **b)** $-(6)^5$
 - **c)** $-(-6)^5$
 - **d)** (-6^5)
- 7. Predict whether each answer is positive or negative, then evaluate.
 - $a) (-3)^2$

b) $(-3)^3$

c) -3^2

- **d)** $-(-3)^3$
- 8. Is the value of -2^4 different from the value of $(-2)^4$? Explain.
- 9. Stamps are sold in a 10 by 10 sheet. The total value of a sheet of stamps is \$60.00.
 - a) Express the number of stamps as a power and in standard form.
 - **b)** Use grid paper. Draw a picture to represent this power.
 - c) What is the value of one stamp?

