FPC10

1.1 – What is a Power?

POWERS are used to write the value of a PRODUCT in SHORTHAND

Vocabulary: 4^3 **Base:**   **Exponent:**   **Power:**

4^3 is shorthand for: "*Write out* _____"

   The <u>value</u> (standard form) of the power is :

The **BASE** can also be a **NEGATIVE** value, e.g. $(-4)^3$: "*Write out* _____"

   The <u>value</u> (standard form) of the power is :

Complete the following table:

Exponent Form	Expanded Form	Standard Form
7^5		
	$(-6)(-6)(-6)(-6)(-6)(-6)(-6)(-6)(-6)$	
$(-10)^3$		
		32
		81
		81

The **EXPANDED** form is always the **PRODUCT** of the _____

WARNING!......Be extra, extra cautious when there are <u>negatives</u> involved!!!!!

Identify the **BASE** of each power:

$$\left(-2\right)^7 \qquad\qquad -2^7 \qquad\qquad \left(-2^7\right) \qquad\qquad -\left(-2\right)^7$$

Write the following powers in **EXPANDED FORM** (repeated multiplication) and evaluate (Standard Form).

NOTE: When –ves, brackets, and exponents are involved, **BEDMAS** determines the order in which the calculations are done!

$$\left(-2\right)^7 \qquad\qquad\qquad\qquad\qquad -2^7$$

$$\left(-2^7\right) \qquad\qquad\qquad\qquad\qquad -\left(-2\right)^7$$

Write the following a power and then evaluate:

a. $\left(-3\right)\times\left(-3\right)\times\left(-3\right)\times\left(-3\right)\times\left(-3\right)$

b. $\left(-2\right)\times\left(-2\right)\times\left(-2\right)\times\left(-2\right)\times\left(-2\right)$

c. $-\left(6\right)\left(6\right)\left(6\right)\left(6\right)$

d. $-\left(-5\right)\left(-5\right)\left(-5\right)\left(-5\right)\left(-5\right)\left(-5\right)\left(-5\right)\left(-5\right)$

What is the difference between -5^2 and $\left(-5\right)^4$?

Is 4^3 the same as 3^4 ? Why or why not?