

# UNIT 3 : EXPRESSIONS



EXPONENTS: AN EXPONENT TELLS HOW MANY TIMES TO MULTIPLY A BASE TIMES ITSELF.

• = MULTIPLY

$$\begin{array}{c} \nearrow \\ \text{BASE} \end{array} 4^3 \leftarrow \text{EXPONENT} = 4 \cdot 4 \cdot 4$$

$$4^3 = \text{FOUR TO THE THIRD POWER}$$

FOUR CUBED

$$5^2 = \text{FIVE TO THE SECOND POWER}$$

FIVE SQUARED

\* ANY NUMBER TO THE ZERO POWER EQUALS 1 ! \*

\* EXPONENTS ONLY WORK ON WHAT THEY TOUCH ! \*

$$2 + 3^3$$
$$2 + (3 \cdot 3 \cdot 3)$$

$$(2+3)^3$$
$$5^3$$

You TRY:

1)  $2^4$

$$2 \cdot 2 \cdot 2 \cdot 2$$
$$\boxed{16}$$

2)  $5+7^2$

$$5 + \overset{7 \cdot 7}{49}$$
$$\boxed{54}$$

3)  $(5+7)^2$

$$12^2 = 12 \cdot 12$$
$$\boxed{144}$$

4)  $10-3^2$

$$10 - \overset{3 \cdot 3}{9} = \boxed{11}$$

5)  $(10-3)^2$

$$7^2 = 7 \cdot 7 = \boxed{49}$$

6)  $2-2^0$

$$2 - 1 = \boxed{1}$$

# ORDER OF OPERATIONS



A SPECIFIC ORDER IN WHICH OPERATIONS MUST BE PERFORMED IN ORDER TO GET THE CORRECT SOLUTION TO A PROBLEM.

$$3 + 5 \cdot 2$$

$$8 \cdot 2$$

$$\boxed{16}$$

THIS IS INCORRECT

$$3 + 5 \cdot 2$$

$$3 + 10$$

$$\boxed{13}$$

THIS IS CORRECT

PLEASE

EXCUSE

MY

DEAR

AUNT

SALLY

P

(GROUPING SYMBOLS)

PARENTHESIS ( ) [ ] { }

E

EXPONENTS

$x^2$

$a^3$

$5^7$

M/D

MULT (x) / DIV (÷)

FROM

LEFT TO RIGHT

A/S

ADD (+) / SUB (-)

FROM

LEFT TO RIGHT

EXAMPLES:

1)  $8 + 14 \div 7 \times 3 - 5$

$8 + 2 \times 3 - 5$

$8 + 6 - 5$

$14 - 5$

9

2)  $6 - (5 - 3) + 10$

$6 - 2 + 10$

$4 + 10$

14