



$4^2 = 4$  squared = 4 to the 2<sup>nd</sup> power

$5^3 = 5$  cubed = 5 to the 3<sup>rd</sup> power

Write using exponents.

1)  $8 \cdot 8 \cdot 8 \cdot 8 = 8^4$

2)  $2 \cdot 2 \cdot 4 \cdot 4 \cdot 4 \cdot 4 \cdot 4 = 2^2 \cdot 4^5$

3)  $n \cdot n \cdot n = n^3$

evaluate - means to substitute for all variables  
and then work out problem



## Order of Operations

Ex  $6 + 4 \times 2$  Is it 20 or  $\textcircled{14}$ ?

Order of Operations - rules that tell you which operation ( $\times$ ,  $\div$ ,  $+$  or  $-$ ) to do 1<sup>st</sup>

expression - any combination of #s + operations  
(never has =)

$$6 + 4 \cdot 2$$

$$3 + 1$$

algebraic expression - any combination of #s, variables + operations

$$\frac{6 + x}{y}$$

$$2x(3) + 4x$$

$$\frac{2^7 \cdot x}{4x}$$

Please Exuse My Dear Aunt Sally  
exponents mult. divide Add Subtract

↓

Grouping Symbols:  
Parentheses  
Bracket [ ]  
Braces { }  
Fraction bar

Work left to right

Work left to right



$$4) 5(46-15) + 2$$

means  
to mult.

$$5(31) + 2$$

$$155 + 2$$

$$\boxed{157}$$

$$5) (23+7) + (12 \cdot 4)$$

$$30 + (12 \cdot 4)$$

$$30 + 48$$

$$\boxed{78}$$

$$6) 2^3 + 5 \cdot 3^2$$

$$2 \cdot 2 \cdot 2$$

$$8 + 5 \cdot 3^2$$

$$3 \cdot 3$$

$$8 + 5 \cdot 9$$

$$8 + 45$$

$$\boxed{53}$$

$$7) \frac{150-42}{3+9} = \frac{108}{12} = \boxed{9}$$

agrouping symbol

now divide

$$8) \frac{525-125}{100-80} = \frac{400}{20} = \boxed{20}$$

Evaluate if  $a = 3$ ,  $b = 8$  and  $c = 10$ .

1)  $48 \div b + a$

$$48 \div 8 + 3$$

✓

$$6 + 3$$

$$\boxed{9}$$

2)  $ab + c$

$$3 \cdot 8 + 10$$

✓

$$24 + 10$$

$$\boxed{34}$$

3)  $9(b+c)$

$$9(8+10)$$

$$9(\overset{\uparrow}{18})$$

$$\boxed{162}$$