B2A2

Lesson Title 1.4 Exponents & Order of Operations Day One **Date** _____

Exponential Notation

Exponential Notation: repeated products in terms of exponents

$(5)(5)(5) = 5^3$

Exponent/power: 3
Base: 5

Task 1:

$3^2 = 9$ $\quad 3 \cdot 3$

$5^3 = 125$ $\quad 5 \cdot 5 \cdot 5$

$2^4 = 16$ $\quad 2 \cdot 2 \cdot 2 \cdot 2$

$\left(\frac{1}{10}\right)^2 = \frac{1}{100}$ $\quad \left(\frac{1}{10}\right)\left(\frac{1}{10}\right)$

Grouping Symbols

( ) parenthesis
[ ] brackets
{ } braces
--- fraction bar not /

Task 4:

a) $3[4 + 2(10 - 1)]$ $= 66$

b) $4[25 - 3(5+3)]$ $= 4$

parenthesis → Exponents → Add/Subtract

PEMDAS

Multiply/Divide

Order of Operations:

1. Simplify anything inside ( ) or other grouping symbols.
2. Evaluate exponential expressions.
3. Multiply/Divide LEFT TO RIGHT
4. ADD/SUBTRACT LEFT TO RIGHT

Task 2:

a) $6 \div 3 + 5^2 = 27$

b) $20 \div 5(4) = 16$

c) $3(4)^2 = 48$

d) $\frac{2(12+3)}{|-15|} = 2$

e) $\frac{3}{2} \cdot \frac{1}{2} - \frac{1}{2} = \frac{1}{4}$

Examples:

Task 3:

a) $\frac{3 + |4-3| + 2^2}{6-3} = \frac{8}{3}$

b) $\frac{6^2 - 5}{3 + |6-5| \cdot 8} = \frac{31}{11}$

Task 5:

a) $\frac{8 + 2 \cdot 3}{2^2 - 1} = \frac{14}{3}$

b) $\frac{36 \div 9 + 5}{5^2 - 3} = \frac{9}{22}$

Still need help with: