Tuesday, August 19th

Warm Up

1. Complete Warm up
2. BYOD
3. Notes: Expressions and Formulas

SP - see board

Evaluate $(12 - 9)^3$.

$(12-9)(12-9)(12-9)$ $(3)^3 \rightarrow 3 \cdot 3 \cdot 3$

27

Simplify $5(4 + n) + 6n$.

$20 + 5n + 6n$

$20 - 11n$

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1.1 -- Expressions and Formulas

Objectives:

- Use order of operations to evaluate expressions
- Use formulas

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New Vocabulary

- variables → a letter that represents an unknown amount
- algebraic expressions
- order of operations
- formula

KeyConcept Order of Operations ( ), | |, { }, [ ],

Step 1	Evaluate the expressions inside grouping symbols.
Step 2	Evaluate all powers.
Step 3	Multiply and/or divide from left to right.
Step 4	Add and/or subtract from left to right.

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Ex. 1: Evaluate $(x - y)^3 + 3$ if $x = 1$ and $y = 4$.

$(1 - 4)^3 + 3$

$(-3)^3 + 3$

$-3 \cdot -3 \cdot -3$

$+9 \cdot -3$

-27

$-27 + 3$

-24

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Ex. 2: Evaluate $n - t(n^2 - t)$ if $n = 2$ and $t = 3.4$.

$2 - 3.4(2^2 - 3.4)$

$2 - 3.4(4 - 3.4)$

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Ex. 3: Evaluate $\frac{x^3 - 8yz}{y^2 + 3z}$ if $x = 2$, $y = -1$, and $z = 5$.

$\frac{(2)^3 - 8(-1)(5)}{(-1)^2 + 3(5)} \rightarrow \frac{8 - -40}{1 + 15} \Rightarrow \frac{48}{16}$

$-1 \cdot -1$

3

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Ex. 4: **GEOMETRY** The formula for the area A of a trapezoid is $A = \frac{1}{2}h(b_1 + b_2)$, where h represents the height, and b_1 and b_2 represent the measures of the bases. Find the area of a trapezoid with base lengths of 13 meters and 25 meters and a height of 8 meters.

$A = \frac{1}{2}(8)(13+25)$

$(\frac{1}{2})(8)(48)$

$4 \cdot 48$

192

$A = 192\ m^2$

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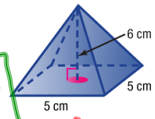
Ex. 5: The formula for the volume V of a pyramid is $V = \frac{1}{3}Bh$ where B represents the area of the base and h is the height of the pyramid. What is the volume of the pyramid shown below?



$V = \frac{1}{3}Bh$

$= \frac{1}{3}(25)(6)$

$= 50$

$V = 50\ cm^3$

$b = \text{square}$

$= 5 \cdot 5$

$= 25$

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Homework:

p. 7 # 7-23 odd, 24, 25, 28, 43

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