Lesson 5.1 Algebraic Expressions

Objective: To evaluate simple algebraic expressions when given the value of the variable.

Ex. 1: Evaluate $8w - 2v$ if $w = 5$ and $v = 3$.

PEMDAS

$8 \cdot 5 - 2 \cdot 3$

$40 - 6 = \boxed{34}$

Ex. 2: Evaluate $4y^3 + 2$ if $y = 3$.

PEMDAS

$4 \cdot 3^3 + 2$

$3 \cdot 3 \cdot 3$

$4 \cdot 27 + 2$

$108 + 2 = \boxed{110}$

Ex. 3: Athletic trainers use the formula $\frac{3(220 - a)}{5}$. This formula is used to find their minimum training heart rate. Find Liana's minimum training heart rate if she is 15.

$\frac{3(220-9)}{5} - \frac{3(220-15)}{5} - \frac{3(205)}{5} = \frac{615}{5} = 5\overline{)615}$

PEMDAS

$= \boxed{123 \text{ beats per minute}}$

Ex. 4 Marisa wants to buy a DVD player that costs $150. She already saved $25 and plans to save an additional $10 each week. Write an expression that represents the total amount of money Marisa has saved after any number of weeks.

W = # of weeks. $\boxed{25 + 10w}$

Algebraic expressions need:
- Variable
- an operatation
- Number (s)