SC Algebra 1
1.2 - Algebraic Expressions

Warm Up:

1. $(-5)(-6)$

2. $\frac{-81}{-9}$

3. $(-5)(-2)(3)$

Speak Like A Mathematician:

variable:

algebraic expression:

term:

constant:

define a variable:

Example 1: Write a Verbal Expression

- Write a verbal expression for $5x^3 + 2$.

- Write a verbal expression for $\frac{2}{5}m^2$.

Example 2: Translate a Verbal Expression with Grouping

- Write a verbal expression for $a^4 + \frac{6b}{7}$.

- Write a verbal expression for $(a^4 + 6b) \div 7$.

Example 3: Write an Algebraic Expression

- two times the quantity y plus 11

- five less than a number cubed

- eighteen increased by the product of three and d

Example 4: Write an Expression

- In the group play stage of the FIFA World Cup, teams are placed in groups of 4, and they play each other. A team is awarded 3 points for a win, 1 point for a tie, and no points for a loss. Write an algebraic expression that represents the number of points accumulated by one team in the group play stage of the World Cup.

- How would the expression change if a point were deducted for each loss.

Example 5: Evaluate an Algebraic Expression

- Evaluate $a^2(3b - a + 5) \div c$, if a = 2, b = 6, and c = 4.

- Evaluate $\frac{b(9-c)}{a^2}$, if a = 4, b = 6, and c = 8.

Example 6: Write and Evaluate Expressions

- In 2004, Chad Fell set the record for the largest bubblegum bubble blown. Assume that the bubble was spherical. The surface area of a sphere is four times π multiplied by the radius squared.

A. Write an expression that represents the area of a sphere.

B. The record setting bubble had a radius of 25.4 centimeters. Find the surface area of the bubble.

- The seating capacities of team stadiums in the AFC East division of the National Football League are shown below.

Team	Number of Seats
Miami Dolphins	65,326
New England Patriots	66,829
Buffalo Bills	71,608
New Your Jets	82,500

A. Write an algebraic expression that represents the maximum number of attendees at the Jets, Patriots and Dolphins home games during the season. Let j be the number of Jets home games, p be the number of Patriots home games, and d be the number of Dolphins home games.

B. Suppose that after the sixth week of the season, the Jets had played 4 home games, the Patriots had played 3 home games, and the Dolphins had played 2 home games. Based on your expression from part A, find the maximum number of attendees at the Jets, Dolphins, and Patriots home games after the sixth week of the season.

Tonight's Homework: