Unit 2 – Numbers, Number Sense and Computation
Section C – Computation
Base Objectives: Arithmetic facts, order of operations

Order of Operations:
- Parentheses
- Exponents
- Multiplication/Division
- Addition/Subtraction
- Within each grouping (or level) it is customary to work left to right
- Examples:
  - Calculate \( 12 + 5^2 - 2 \cdot (21 + 4) \)
  - Calculate \( \frac{-3 \pm \sqrt{3^2 - 4(1)(-10)}}{2(1)} \)
  - Calculate \( -3 \pm \sqrt{3^2 - 4(2)(10)} \)
    \( \frac{2(2)}{} \)
  - Calculate \( 1 + \left( \frac{45 + (2^3 - 4)}{7 - 2(3)} \right)^{1/2} \)

Subtraction as the Additive Inverse:
- Some students have difficulty with the signs associated with subtraction
- All subtraction problems can be turned into addition problems
- Example: \( 2 + 7 - 5 \) is equivalent to \( 2 + 7 + (-5) \)
- This is useful for some when doing a long string of computations, for example
  \[
  2 + 12 - 8 + 9 - 5 + 33 - 21 - 7 \\
  = 2 + 12 + (-8) + 9 + (-5) + 33 + (-21) + (-7) \\
  = 2 + 12 + (-8) + 9 + (-5) + 33 + (-21) + (-7) \\
  = 2 + 12 + 9 + 33 + (-8) + (-5) + (-21) + (-7) \\
  = 56 + (-41) \\
  = 15
  \]

Calculator Issues:
- Almost every calculator works differently, especially when doing the calculations above.
- Be sure you can determine how different calculators function, and how to coach students to enter information correctly

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