Learning Goals

1. To understand that you must put brackets around the numbers you plug into an equation.

2. To understand that a square root sign should be treated the same way as a bracket.

3. To understand that you must always follow BEDMAS when solving expressions.

1.3 - Order of Operations with Powers (BEDMAS)

Note the difference on how each power is calculated.

$(-2)^6$ means $-2 \times -2 \times -2 \times -2 \times -2 \times -2$

-2^6 means $-1 \times (2 \times 2 \times 2 \times 2 \times 2 \times 2)$

Reminders

1. Don't use the subtraction key as a negative sign on the calculator.

2. When a square root sign covers an expression, it contains the expression just like brackets.

3. When there are multiple brackets, complete the operations in the inner brackets first.

4. Always follow BEDMAS when solving expressions.

Example One

Solve.

$$-2^4 + (-1 - 1)^3 + 5(-2)^4$$

BEDMAS

$= -2^4 + (-2)^3 + 5(-2)^4$

$= -16 - 8 + 5(16)$

$= -16 - 8 + 80$

$= 56$

Example Two

Solve.

$$[(2 + 3) \times 3]^2$$

BEDMAS

1. $[(5) \times 3]^2$
2. $[15]^2$
3. 225

Example Three

Solve.

$$-3^4 + [-2 - (-4)^2] + \sqrt{16}$$

BEDMAS

$= -3^4 + [-2 - 16] + \sqrt{16}$

$= -3^4 + [-18] + \sqrt{16}$

$= -3^4 + [-18] + 4$

$= -81 - 18 + 4$

$= -95$

Note: Always put brackets around a number when plugging it in for a variable.

Example Four

Solve. $\frac{3x^3 + 16}{-y^3}$ where, x = -4 and y = 2

BEDMAS

$$= \frac{3(-4)^3 + 16}{-(2)^3}$$

$$= \frac{3(-64) + 16}{-8}$$

$$= \frac{-192 + 16}{-8}$$

$$= \frac{-176}{-8}$$

$$= 22$$

Complete: p. 35 - 36 #4, 6, 8def, 11cef.