lulumath

Evaluating Algebraic Expressions
Video Notes

Video Link

Evaluating Algebraic Expressions

Background Information:
- Operations on Integers *and Fractions*
- Order of Operations *BEDMAS or PEMDAS*
- Evaluating Negative Bases with Exponents
- Evaluating Fractional Bases with Exponents

Evaluate:

$x - 2y$, when $x = 3$ and $y = -5$

$$x - 2y$$
$$3 - 2(-5)$$
negative
$$3 + 10$$
$$\boxed{13}$$

$$B \; E \begin{smallmatrix} D \\ M \end{smallmatrix} \begin{smallmatrix} A \\ S \end{smallmatrix}$$

$$P E M \begin{smallmatrix} A \\ D \end{smallmatrix} S$$

Evaluate:

$a - (b - (a - b^2))$, when $a = 2$ and $b = -9$

$$a - (b - (a - b^2))$$
$$2 - (-9 - (2 - (-9)^2))$$
$$2 - (-9 - (2 - 81))$$
$$-9 + 79$$
$$2 - (-9 - -79)$$
$$+$$
$$2 - 70$$
$$\boxed{-68}$$

Evaluate:

$x^2 - 5x + 4$ for $x = 2/3$

$$x^2 - 5x + 4$$

$$\left(\frac{2}{3}\right)^2 - 5\left(\frac{2}{3}\right) + 4$$

$$\frac{2}{3} \cdot \frac{2}{3} - \frac{5}{1} \cdot \frac{2}{3} + 4$$

$$\frac{4}{9} - \frac{10}{3} + \frac{4}{1}$$

LCD = 9

$$\frac{4}{9} - \frac{10}{3} + \frac{4}{1}$$

$$\frac{4}{9} - \frac{30}{9} + \frac{36}{9}$$

$$\boxed{\frac{10}{9}}$$

$1\frac{1}{9}$

$$\frac{10 \cdot 3}{3 \cdot 3} = \frac{30}{9}$$

$$\frac{4 \cdot 9}{1 \cdot 9} = \frac{36}{9}$$

Evaluate:

$2r^3 s^2 t^5$ for $r = -3$, $s = -4$, and $t = 2$

$$2r^3 s^2 t^5$$

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

$$2(-27)(16)(32)$$

$$\boxed{-27{,}648}$$