

Parent Concept Review

Evaluating Polynomials (CA 2.0*)

Steps for evaluating polynomials

- 1) Write skeleton of polynomial
- 2) Substitute values into polynomial
-careful to substitute values into correct places
- 3) Simplify using Order of Operations
 - a. Calculate grouping symbols by doing operations within parenthesis
 - b. Calculate all exponents
 - c. Multiply/Divide – left to right
 - d. Addition/Subtraction – left to right

P
E
M
D
AS

Example:

Evaluate $2xy - (x + y)^2 + xy^2$ for $x = -5$ & $y = -2$

$2(\)(\) - [(\) + (\)]^2 + (\)(\)^2$	Step 1: Skeleton	$2(\)(\) - [(\) + (\)]^2 + (\)(\)^2$
$2(-5)(-2) - [(-5) + (-2)]^2 + (-5)(-2)^2$	Step 2: Substitute	$2(\)(\) - [(\) + (\)]^2 + (\)(\)^2$
$2(-5)(-2) - (-7)^2 + (-5)(-2)^2$	Step 3a:	$2(-5)(-2) - (\)^2 + (-5)(-2)^2$
$2(-5)(-2) - 49 + (-5)(4)$	Step 3b:	$2(-5)(-2) - \underline{\hspace{2cm}} + (-5)(\)$
$20 - 49 + (-20)$	Step 3c:	$\underline{\hspace{2cm}} - 49 + (\)$
$\textcircled{-49}$	Step 3d:	$\textcircled{\hspace{2cm}}$

Evaluate the following polynomials for $x = -5$ and $y = 2$

1) $-2(x - y)^2 + x^2y - 2xy$

2) $-3xy^2 + (y + x)^2$

$$\begin{aligned}
 & -2[(\) - (\)]^2 + (\)^2(\) - 2(\)(\) \\
 & -2(\)^2 + (-5)^2(2) - 2(-5)(2) \\
 & -2(\) + (\)^2(2) - 2(-5)(2) \\
 & \underline{\hspace{2cm}} + (\) \quad \underline{\hspace{2cm}} \\
 & \textcircled{\hspace{2cm}}
 \end{aligned}$$

$$\begin{aligned}
 & -3(\)(\)^2 + [(\) + (\)]^2 \\
 & -3(\)(\)^2 + (\)^2 \\
 & -3(\)(\) + (\) \\
 & \underline{\hspace{2cm}} + \underline{\hspace{2cm}} \\
 & \textcircled{\hspace{2cm}}
 \end{aligned}$$

Evaluate the following polynomials for $x = -1$, $y = 4$, $z = -2$ on back

1) $5x^2y - (x + y)^2 - yz$

2) $-3xz^2 + (z - x)^2 + x^3$

3) $(xy)^2 - 2xz^2 + y^2z$

4) $x^2y + z(y - x)^2$

5) $(y - x)^2 + xyz + (z - x)^2$

6) $2x^3y - x^2z^3 + (x + z)^2$