

2-1 Adding and Subtracting Polynomials

Objective: Students will be able to add and subtract polynomials.

Nov 13-1:54 PM

A polynomial can have constants, variables and exponents, but never division by a variable.

constants (like 3, -20, or $\frac{1}{5}$)
variables (like x and y)
exponents (like the 2 in y^2), but only 0, 1, 2, 3, ... etc are allowed
... not division by a variable (so something like $2/x$ is right out)

Polynomial or Not?

exponents: 0, 1, 2, ...

$5xy^2 - 3x + 5y^3 - 3$
 terms
 A Polynomial

$3xy^{-2}$
 $\frac{2}{x+2}$
 Not Polynomials

Dec 9-8:20 AM

Addition and Subtraction: Combine the terms that are alike in each expression (simplify). Each term is separated by the addition or subtraction sign.

- $2 + x + 5$
 $x + 7$
- $13 - 2y - 5 + 6y$
 $4y + 8$
- $3x + 4y + 12 - 7y + 6 + 4x = 2 + 13y$
 $7x + 10y + 16$
- $-4 + 7 + y^2 - 3x^2 + 22 - 5y^2$
 $-3x^2 - 4y^2 + 25$

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You try!

- $7 + 3x^2 + 3 + 2x^2$
 $5x^2 + 10$
- $x^2 - 2 + 5x^2 + 15$
 $6x^2 + 13$

Nov 14-9:22 AM

Add each polynomial by combining like terms.

- $(4x+3) + (6x+2)$
 $10x + 5$
- $(2x-3) + (4-6x)$
 $-4x + 1$
- $(2y^2 - 2y + 7) + (y^2 - 11 + 12y)$
 $3y^2 + 10y - 4$

Aug 2-10:13 AM

You try... 😊

- $(2x+7) + (2x+3)$
 $4x + 10$
- $(8x+5) + (-2x-9)$
 $6x - 4$
- $(8y^2 + 5 - y) + (12y^2 + 3y - 9)$
 $20y^2 + 2y - 4$

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Subtract each polynomial.

$$\begin{array}{r} 4x - 6x \\ 3 - 2 \end{array} \quad \begin{array}{r} 2x - -6x \\ -3 - 4 \end{array}$$

1. $(4x+3)-(6x+2)$ 2. $(2x-3)-(4-6x)$

$$-2x + 1$$

$$8x - 7$$

3. $(8y^2+5-y)-(12y^2+3y-9)$

Aug 2-10:29 AM

You try? Right now!

1. $(2x+7)-(2x+3)$

2. $(8x+5)-(-2x-9)$

3. $(2y^2-2y+7)-(y^2-11+12y)$

Aug 2-10:33 AM

Be careful! You can only combine like terms.

$$(\underline{y^4} - 2y + \underline{6y^2}) + (\underline{2y^2} - \underline{11y^4} + \underline{12y} - \underline{3y^3})$$

$$-10y^4 - 3y^3 + 8y^2 + 10y$$

Aug 2-10:39 AM

Sep 19-9:47 AM