

LESSON
4-2

Adding Polynomial Expressions

Reteach

You can add polynomials by combining **like terms**.

These are examples of **like terms**:

$4y$ and $7y$

$8x^2$ and $2x^2$

m^5 and $7m^5$

These are **like terms** because they have the same variables and same exponent.

These are not like terms:

$3x^2$ and $3x$

$4y$ and 7

$8m$ and $8n$

same variable
but different
exponent

one with a
variable, one
is a constant

different
variables

Add $(5y^2 + 7y + 2) + (4y^2 + y + 8)$.

$$\underline{\underline{(5y^2 + 7y + 2)}} + \underline{\underline{(4y^2 + y + 8)}}$$

$$\underline{\underline{(5y^2 + 4y^2)}} + \underline{\underline{(7y + y)}} + \underline{\underline{(2 + 8)}}$$

$$9y^2 + 8y + 10$$

Identify like terms.

Rearrange terms so that like terms are together.

Combine like terms.

Add $(5y^2 + 7y + 2) + (4y^2 + y + 8)$.

$$\underline{\underline{(5y^2 + 7y + 2)}} + \underline{\underline{(4y^2 + y + 8)}}$$

$$\underline{\underline{(5y^2 + 4y^2)}} + \underline{\underline{(7y + y)}} + \underline{\underline{(2 + 8)}}$$

$$9y^2 + 8y + 10$$

Identify like terms.

Rearrange terms so that like terms are together.

Combine like terms.

Add.

1. $(6x^2 + 3x) + (2x^2 + 6x)$ _____

2. $(m^2 - 10m + 5) + (8m + 2)$ _____

3. $(6x^3 + 5x) + (4x^3 + x^2 - 2x + 9)$ _____

4. $(2y^5 - 6y^3 + 1) + (y^5 + 8y^4 - 2y^3 - 1)$ _____