

**LESSON**  
**17-2**

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

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

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

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

*Identify like terms.*

*Rearrange terms so that like terms are together.*

*Combine like terms.*

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

*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.  $(2y^5 - 6y^3 + 1) + (y^5 + 8y^4 - 2y^3 - 1)$  \_\_\_\_\_