



## 1.15 COMBINING LIKE TERMS



# WHAT IS A TERM?

- A **term** is either a single number or variable or numbers and variables multiplied together. Terms are separated by + or – signs.

Expression

$$\frac{4x - 7}{=} \underline{5}$$

Terms

# WHAT ARE LIKE TERMS?

○ Like terms are terms with the same variable or variables.

○  $5 + 7$

○  $3x + 4x$

○  $y^2 + 2y^2$

What's a easier way to write  $5 + 7$ ?

WHICH ONE IS NOT A LIKE TERM?

CIRCLE WHICH ONE DOES NOT FIT.

1)             $7n$              $8n$              $9n^2$

2)             $12x^2$              $12x^6$              $13x^2$

3)             $9rs$              $4rs$              $7r^3s$

# WHY SHOULD WE COMBINE LIKE TERMS?

- When you combine like terms, you are simplifying an expression or equation by adding or subtracting the **coefficients** of the like terms.
- Once we are able to combine like terms, we can then solve an equation if needed.
- Just like  $5 + 7 \rightarrow$  we can write 12 instead
- But now we have variables!



We can write this in Algebra as:  $2b + f + d + 3b + 2f + 2d$

If we combine like items, we get a simplified list as follows:



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CONSIDER THIS...

# STEPS TO COMBINING LIKE TERMS

- Write the equation or expression
- Identify the like terms by placing a box around each including the sign that comes before it.
  - If there is no sign  $\rightarrow$  it is positive!! (just like whole numbers)
- Then add or subtract coefficients
  - Remember include the sign in the coefficient!
  - Therefore, you may be working with integers!
    - Use your integer rules to do so
- The variables stay the same

# ADDITION EXAMPLES

- $7x + x$

- $-8mn + 3mn$



# SUBTRACTION EXAMPLES

- $6a - 3a$

- $9xy - 19xy$

# EXPRESSIONS WITH LIKE TERMS AND CONSTANTS

- $12x + 7x + 5$

- $-5rs - 7rs - 3$

- $9rt - 3rt + 8$

- $14n - 17n + 2$

- $-8y^2 + 7y^2 + 10$

- $-3r - 7r - 10$