



LESSON 7.3a
All My Xs

Objective

Combining Like Terms

Warm-Up



Simplify each expression using the Order of Operations.

1. $10 + 8 \div 2(4 + 3)$

2. $21 \div (1)(3) + 0 - 14$

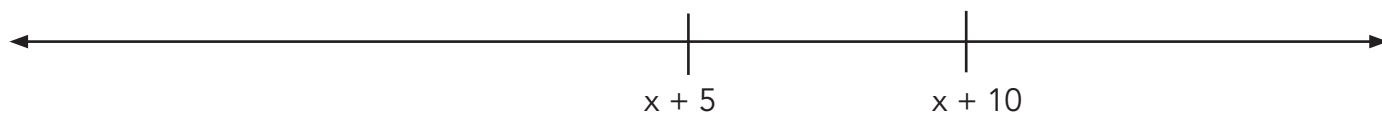
3. $18.2 + 6.1(5) - 3.5$

4. $\frac{3}{4} - \frac{4}{5}(2 - 10)$

**Show You
KNOW**

Find X

The number line shows the locations of two values, represented by linear algebraic expressions.



1. Draw and label a tick mark on the number line to locate each expression given. Explain the reasoning you used to determine the location.

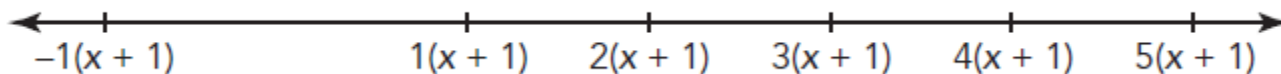
a. x

b. $x + 15$

c. $x - 5$



The number line shows the locations of six values, represented by linear expressions.



1. Determine the distance between $3(x + 1)$ and $1(x + 1)$ on the number line. Describe the reasoning you used to determine the distance.

Like terms are parts of an algebraic expression that have the same variable expression. For example, in the expression $5(x + 2) + 3 - 2(x + 2)$, the terms $5(x + 2)$ and $2(x + 2)$ are like terms. The coefficients, 5 and 2, are different, but the variable expression is the same ($x + 2$).

When you operate with like terms, you can combine like terms before doing other operations.

WORKED EXAMPLE

Rewrite the expression $5(x + 2) + 3 - 2(x + 2)$ by combining like terms.

$3 + 5(x + 2) - 2(x + 2)$	You can rewrite the expression using the Commutative Property of Addition.
$3 + 3(x + 2)$	Combine the like terms.

2. Use the worked example to answer each question.

a. How is the Commutative Property used to rewrite the expression?

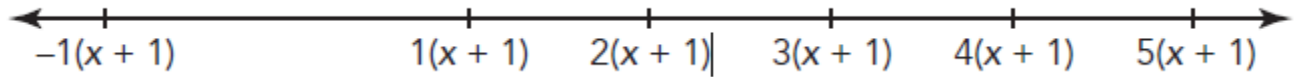
b. How are the like terms in the expression combined?

3. Consider the expressions $3(x + 1)$ and $1(x + 1)$ from Question 1.

a. Explain how these two expressions can be "like terms."

b. How did you combine like terms to determine the distance between the expressions? Use the number line to explain your reasoning.

4. First, use the number line to determine the distance between the given expressions. Then write an expression and show how combining like terms produces the same result.



a. Determine the distance between $5(x + 1)$ and $2(x + 1)$.

b. Determine the distance between $1(x + 1)$ and $-1(x + 1)$.

5. Explain why Kaitlyn's reasoning is incorrect. Then rewrite the expression correctly.

Kaitlyn



$7 - 5(x + 1)$ is the same as $2(x + 1)$, because $7 - 5 = 2$.

6. Simplify each expression by combining like terms.

a. $5(x + 2) + 2(x + 2)$

b. $5(x + 2) - 2(x + 2)$

**LESSON 7.3a**
All My Xs**Objective****Combining Like Terms****Review**

Determine the circumference of each circle, given its radius or diameter. Use 3.14 for π and round to the nearest tenth.

1. Radius: 4.5 cm
2. Diameter: 12 ft

Determine each unit rate.

3. 75 square feet of tile for \$126
4. 420 miles in 6.5 hours

Compare the fractions in each pair using the symbol $>$, $<$, or $=$.

5. $\frac{3}{5}$, $\frac{2}{3}$

6. $\frac{6}{7}$, $\frac{8}{9}$