

Warm Up

*On new piece of paper put Week 3 Warm Ups on top and label today's work Monday

Find The Product:

$$1. (4)(-4)$$

$$-16$$

$$2. (-12)(2)$$

$$-24$$

$$3. 13(-2)(-3)$$

$$13 \cdot (-2) \cdot (-3)$$

$$-26 \cdot (-3)$$

$$78$$

Simplify the variable expression:

$$4. (7)(-x)$$

$$-7x$$

$$5. -(-4)^2(y)$$

$$-1 \cdot 16 \cdot y$$

$$-16y$$

$$6. 3(-w^2)(2w)$$

$$3 \cdot -1 \cdot w \cdot w \cdot 2w$$

$$-6w^3$$

Homework Questions?

$$911) (7t)^3 \quad t = -\frac{3}{7}$$

$$\left(7 \left(-\frac{3}{7} \right) \right)^3$$

$$(-3)^3 = -3 \cdot -3 \cdot -3$$

$$-9 \cdot -3 = -27$$

$$\begin{aligned} 97) \quad & 23 - [(12 \div 3)^2 + 8] \\ & 23 - [4^2 + 8] \\ & 23 - [16 + 8] \\ & 23 - 24 = \textcircled{-1} \end{aligned}$$

On the top of your paper (by your name) rate yourself for this section:

- 4 - I can summarize the concepts and explain it to others**
- 3 - I can apply the concept to answer questions correctly**
- 2 - I can apply the concepts but with some mistakes**
- 1 - I need help and know how to apply the concept**
- 0 - I can't apply the concept, even with help**

Rating of 0-2 is a warning signal to me that you need help

The Unit Organizer			NAME _____ DATE _____
④ BIGGER PICTURE			Mo/Date/Year _____
② LAST UNIT/Experience None	① CURRENT UNIT Properties of Real Numbers	③ NEXT UNIT/Experience Solving Linear Equations	
⑧ Student Activities or Assignments 2.1 2.2 2.3 2.5 2.6	⑤ UNIT MAP <div style="text-align: center;"> </div>		
⑦ UNIT SELF-TEST QUESTIONS 1. How do you add, subtract, and multiply integers? 2. How do you use the distributive property to evaluate and simplify variable expressions? 3. How do you simplify a variable expression by combining like terms? 4. How can absolute value be used to evaluate expressions?		⑥ UNIT RELATIONSHIPS Simplify Calculate Compare and contrast	

2.6 The Distributive Property

- Goals:**
- Use the distributive property.
 - Simplify expressions by combining like terms.

EQ: What does $a(b - c)$ become if you use the distributive property?



Vocabulary

Distributive property:

The distributive property lets you multiply a sum by multiplying each addend separately and then adding the products.

$$a(b + c) = ab + ac$$

$$a(b - c) = ab - ac$$

$$(b + c)a = ba + ca$$

$$(b - c)a = ba - ca$$

coefficient: The number in front of the letter.

ex: $\underline{3}x$

Like Terms: terms with same letter and same power

ex: $\underline{3x^2} + 2x + \underline{4x^2} + 2y$
 $7x^2 + 2x + 2y$

Constant Terms: Terms that do not contain a variable.

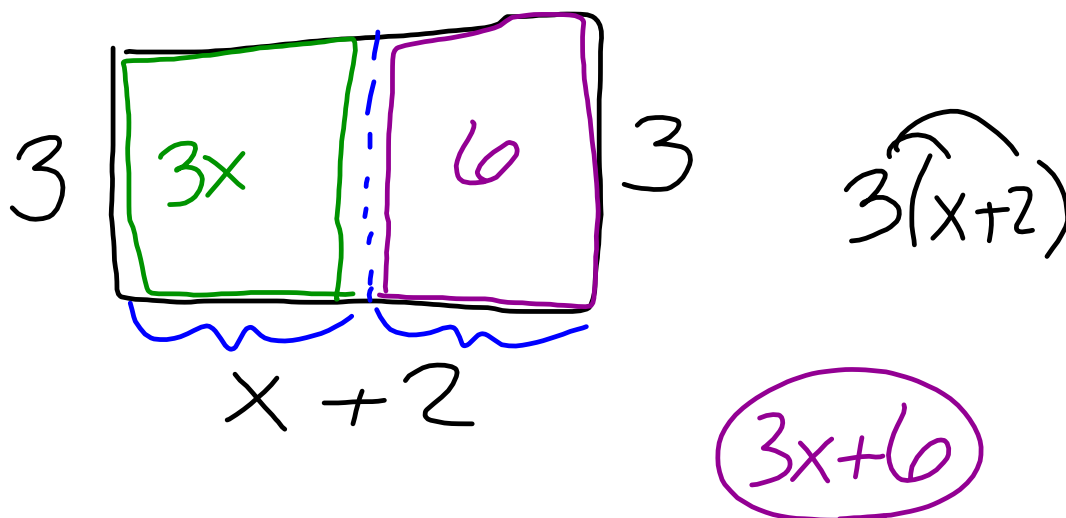
ex: $3x^2 - 2x + \textcircled{5}$

Simplified:

No () left in the expression and like terms are together.

Demonstration of Distributive Property

Find the area of a rectangle whose width is 3 and whose length is $x + 2$.

Using the Distributive Property

Find the product.

$$2(x + 7) = 2x + 2(7) = 2x + 14$$

$$(x - 4)x = x^2 - 4x$$

$$10 - (x + 3)$$

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

Using the Distributive Property

Find the product.

$6(x + 4)$

$6x + 24$

$(3 + 2x)9$

$27 + 18x$

$18x + 27$

$(t + 10)(-3)$

$-3t + -30$

$-3t - 30$

$(2x - 3)(-2x)$

$-4x^2 + 6x$

$-4x^2 + 6x$

Real World Application

You are shopping for CD's. You want to buy six CD's for \$11.95 each. Use the distributive property to calculate the total cost mentally (NO CALCULATORS).

$$6(12 - 0.05) = 72 - 0.30$$

$$= \$71.70$$

You are sending flowers for Valentine's Day to four of your friends. Each bouquet costs \$7.98. Use the distributive property to calculate the total cost mentally (NO CALCULATORS).

$$4(8 - 0.02) = 32 - 0.08$$

$$= \$31.92$$

Combining Like Terms

Simplify the expression.

$$\underline{10x} + \underline{(-15x)}$$

$$-5x$$

$$\underline{8b^3} - \underline{3b^3} - 2$$

$$5b^3 - 2$$

$$\underline{y^2} + \underline{2} + \underline{3x} + \underline{4y^2} + \underline{(+3)} + \underline{(-7x)}$$

$$5y^2 + 5 - 4x$$

Combining Like Terms

Simplify the expression.

$$-6x - 7x$$

$$-13x$$

$$\underline{-2} + \underline{y} + \underline{8}$$

$$6 + y$$

$$\underline{w^2} - \underline{3w^2} + 8w$$

$$-2w^2 + 8w$$

Use the Distributive Property to Simplify

It takes you 45 minutes to get to school. You spend t minutes walking to the bus stop, and the rest of the time riding the bus. You walk 0.06 miles/minute and the bus travels 0.5 miles/minute. The total distance you travel is given by the function $D = 0.06t + 0.5(45 - t)$. Simplify this function.

2.6 Summary

EQ: What does $a(b - c)$ become if you use the distributive property?

$$a(b-c) = ab - ac$$

2.6 Homework



*Combine Like Terms wkst

*2.6 p.103 #26-60even