

Day One

Translating Words Into Numerical
Expressions

Vocabulary Review:

Numerical Expression

Translate Verbal Phrases into Expressions

Key Words

<u>Add</u>	<u>Subtract</u>	<u>Multiply</u>	<u>Division</u>
Sum	Difference	Per	Quotient
Total	Minus	For Each	Divided by
Plus	Decreased by	<u>For Every</u>	Among
Increased by	Less than	Product	
More than		of	



Guided Practice

Words and Expressions

Write a numerical expression for each verbal phrase.

1. the difference of seventeen and three $17 - 3$
2. eleven more than six $11 + 6 = 17$
3. the sum of eight, twenty, and thirty-five $8 + 20 + 35 = 65$
4. the quotient of forty and eight $40 \div 8 = 5$
5. one hundred ~~decreased~~ by twenty-five $100 - 25$
6. three more than one dozen $12 + 3$
7. the product of twenty and thirty $20 \cdot 30$
8. five less than fifty $50 - 5$

Independent Practice/Homework

Write a numerical expression for each verbal phrase.

1. eleven less than twenty

$$20 - 11$$

3. sixty-four divided by eight

$$64 \div 8$$

5. the quotient of forty and eight

$$40 \div 8$$

7. six groups of twelve

$$6 \cdot 12$$

9. the sum of thirteen and eighteen

$$13 + 18$$

2. twenty-five increased by six

$$25 + 6$$

4. the product of seven and twelve

$$7 \cdot 12$$

6. sixteen more than fifty-four

$$16 + 54$$

8. eighty-one decreased by nine

$$81 - 9$$

10. three times seventeen

$$3 \cdot 17$$

Name _____ Class Period _____

Words and Expressions

Write a numerical expression for each verbal phrase.

1. the difference of seventeen and three

$$17 - 3$$

2. eleven more than six

$$11 + 6$$

3. the sum of eight, twenty, and thirty-five

$$8 + 20 + 35$$

4. the quotient of forty and eight

$$40 \div 8$$

5. one hundred decreased by twenty-five

$$100 - 25$$

6. three more than one dozen

$$3 + 12$$

7. the product of twenty and thirty

$$20 \cdot 30$$

8. five less than fifty

$$50 - 5$$

Write a numerical expression for each verbal phrase.

1. eleven less than twenty

2. twenty-five increased by six

3. sixty-four divided by eight

4. the product of seven and twelve

5. the quotient of forty and eight

6. sixteen more than fifty-four

7. six groups of twelve

8. eighty-one decreased by nine

9. the sum of thirteen and eighteen

10. three times seventeen

What problems do you want
to see from
last night's homework?
Drag to green area!

1 2 3 4 5 6 7 8
9 10 11 12 13 14 15
16 17 18 19 20 21
22 23 24 25 26 27
28 29 30 31 32
33 34 35 36

No clue how to do the hw
...very confused!

Happy Friday!!

Make sure you have....

- 1) Pencil, notebook & CALCULATOR
- 2) HW Out
- 3) Write homework in planner

- 1) What is a variable?
- 2) How is a numerical expression different from an algebraic expression?



Day Two

Translating Words Into Algebraic Expressions

Vocabulary Review

Algebraic Expressions

Variables

Algebraic Expressions

The letter x is most often used as a variable.

$$x + 3$$

$7d$ means $7 \times d$.
 mn means $m \times n$.

$$7d - 2$$

$$mn$$

$\frac{b}{5}$ means $b \div 5$.

$$\frac{b}{5}$$

Translate Verbal Phrases into Expressions

Key Words

Add

Sum

Total

Plus

Increased by

More than

Subtract

Difference

Minus

Decreased by

Less than

Multiply

Per

For Each

For Every

Product

of

Division

Quotient

Divided by

Among



Guided Practice

Translating Algebraic Phrases (B)

Instructions: Write an algebraic expression for each phrase.

$+$	n	37	$n + 37$
	\div	61	$61 \div n$
	$+$	93	$n + 93$
	\cdot	32	$32n$
	\cdot	25	$25n$
	$-$	8	$n - 8$
			$9 + n$ or $n + 9$
			$59n$
			$n \div 97$
			$17n$
			$61 + n$
			$n - 86$
			$90 - n$
			$n - 81$

MATH-DRILLS.COM MATH-DRILLS.COM MATH-DRILLS.COM M.

ALGEBRA Translate each phrase into an algebraic expression.

- 6 \cdot n $-$ 11 $6n - 11$
 six times a number minus eleven
- 800 \cdot n $800n$
 the product of eight hundred and a number
- 30 \div $10n$
 the quotient of thirty and the product of ten times a number
- 5 \cdot $(3 + n)$
 five times the sum of three and some number
- $\frac{d}{2}$ or $\frac{1}{2}d$
 half the distance to the school

Independent Practice/Homework

Exercises

Translate each phrase into an algebraic expression.

1. eight inches taller than Mycala's height
2. twelve more than four times a number
3. the difference of sixty and a number
4. three times the number of tickets sold
5. fifteen dollars more than a saved amount
6. the quotient of the number of chairs and four
7. a number of books less than twenty-three
8. five more than six times a number
9. seven more boys than girls
10. twenty dollars divided among a number of friends minus three

ALGEBRA Translate each phrase into an algebraic expression.

1. six times a number minus eleven
2. the product of eight hundred and a number
3. the quotient of thirty and the product of ten times a number
4. five times the sum of three and some number
5. half the distance to the school

Exercises

Translate each phrase into an algebraic expression.

- | | |
|--|-------------------------------------|
| 1. eight inches taller than Mycala's height | $8+m$ OR $m+8$ |
| 2. twelve more than four times a number | $4n+12$ OR $12+4n$ |
| 3. the difference of sixty and a number | $60-n$ |
| 4. three times the number of tickets sold | $3t$ |
| 5. fifteen dollars more than a saved amount | $15+a$ OR $a+15$ |
| 6. the quotient of the number of chairs and four | $\frac{z}{4}$ OR $z \div 4$ |
| 7. a number of books less than twenty-three | $23-n$ |
| 8. five more than six times a number | $5+6n$ |
| 9. seven more boys than girls | $g+7$ OR $7+g$ |
| 10. twenty dollars divided among a number of friends minus three | $\frac{20}{n}-3$
$20 \div n - 3$ |



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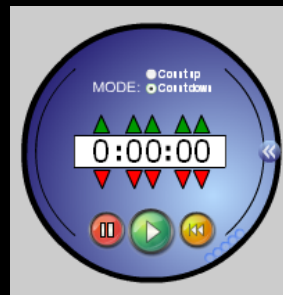
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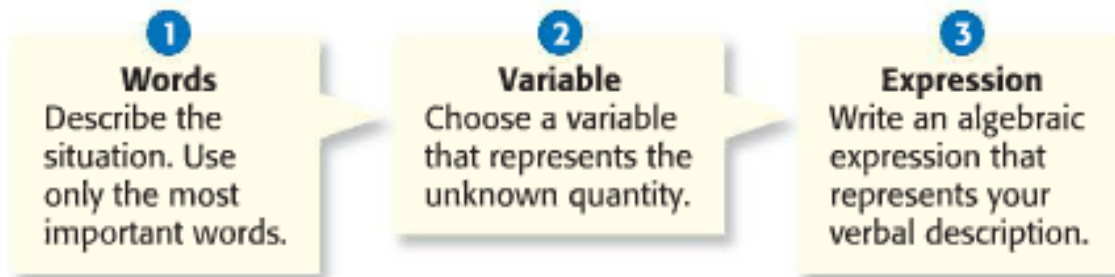
- 1) What is a variable?
- 2) How is a numerical expression different from an algebraic expression?

See Me: 1st Sydney, 6/7 Brendan, Robert 12th Kyle B



Day 3-Writing and Using Algebraic Expressions

Sometimes you will need to translate a verbal phrase into an algebraic expression. The first step is to define a variable. When you **define a variable**, you choose a variable to represent an unknown quantity. Follow these steps to write an algebraic expression.



CHECK Your Progress

- h. MUSIC** An online store is having a special on music. An MP3 player costs \$70 and song downloads cost \$0.85 each. Write an expression that represents the cost of the MP3 player and s number of downloaded songs. Then find the total cost if 20 songs are downloaded.

Guided Practice

REAL-WORLD EXAMPLES

Write Expressions

DVD PLAYER Marisa wants to buy the DVD player shown. She has already saved \$25 and plans to save an additional \$10 each week.



- 5 Write an expression that represents the total amount of money Marisa has saved after any number of weeks.

- 6 Will Marisa have saved enough money to buy the DVD player in 11 weeks?

MUSIC An online store is having a special on music. An MP3 player costs \$70 and song downloads cost \$0.85 each. Write an expression that represents the cost of the MP3 player and s number of downloaded songs. Then find the total cost if 20 songs are downloaded.

Guided Practice

BOATS A company rents a house boat for \$200 plus an extra \$30 per day.

a. Write an expression that can be used to find the total cost to rent a house boat.

b. Suppose the Gregoran family wants to rent a house boat for six days. What will be the total cost?

Guided Practice

4. **SALES** At a garage sale, Georgia found some used DVDs and CDs that she wanted to buy. Each DVD was marked at \$5 and each CD was marked at \$3. Write an expression to find the total cost to buy some DVDs and CDs. Then find the cost of buying 4 DVDs and 7 CDs.

Independent Practice/Homework

FIELD TRIP The seventh grade math classes are going on a field trip. The field trip will cost \$7 per student. Write an expression to find the cost of the field trip for s students. What is the total cost if 26 students go on the trip?

$$7s$$

$$7 \cdot 26$$

$$\$182$$

SOCCER Jason earns \$20 per game as a referee in youth soccer games. Write an expression to find how much money Jason will earn for refereeing any number of games. Let n represent the number of games Jason has refereed. How much will he earn for refereeing 6 games?

$$20n$$

$$20 \cdot 6$$

$$\$120$$

SAVINGS Kata has a savings account that contains \$230. She decides to deposit \$5 per month from her monthly earnings for baby-sitting after school. Write an expression to find how much money Kata will have in her savings account after x months. Let x represent the number of months. Then find out how much she will have in her account after 12 months.

$$5x + 230$$

$$5 \cdot 12 + 230$$

$$60 + 230$$

$$\$290$$

MUSIC A Web site charges \$0.99 to download a song and a \$12.49 membership fee. Write an expression that gives the total cost in dollars to download any number of songs. Then find the cost of downloading 6 songs.

$$12.49 + 0.99n$$

$$12.49 + 0.99 \cdot 6$$

$$12.49 + 5.94$$

$$\$18.43$$

CARS A car rental company's fees are shown.

Car Rental Prices	
Option 1	Option 2
• \$19.99 fee	• \$50 fee
• \$0.17 per mile	• \$0.17 per mile

23. Suppose you rent a car using Option 2.

Write an expression that gives the total cost in dollars for driving any number of miles. Then find the cost for driving 150 miles.

24. Suppose you rent a car using Option 1.

Write an expression that gives the total cost in dollars to rent a car for d days and m miles. Then find the cost for renting a car for 2 days and driving 70 miles.

OPT 2

$$50 + 0.17m$$

$$50 + 0.17 \cdot 150$$

$$\$75.50$$

OPT 1

$$19.99d + 0.17m$$

$$19.99 \cdot 2 + 0.17 \cdot 70$$

$$\$51.88$$

4. **SALES** At a garage sale, Georgia found some used DVDs and CDs that she wanted to buy. Each DVD was marked at \$5 and each CD was marked at \$3. Write an expression to find the total cost to buy some DVDs and CDs. Then find the cost of buying 4 DVDs and 7 CDs.

$$CD = c \quad DVD = d$$

$$3c + 5d$$

$$3 \cdot 7 + 5 \cdot 4$$

$$21 + 20$$

$$\$41$$

★ A company rents a house boat for \$200 plus an extra \$30 per day.

★ **MUSIC** An online store is having a special on music. An MP3 player costs \$70 and song downloads cost \$0.85 each. Write

★ six times a number minus eleven
the product of eight hundred and a number

★ eleven less than twenty
sixty-four divided by eight

★ the quotient of thirty and the product of ten times a number

the quotient of forty and eight
six groups of twelve

DVD PLAYER Marisa wants to buy the DVD player shown.

★ the sum of thirteen and eighteen

★ She has already saved \$25 and plans to save an additional \$10 each week.

★ I want to go to Sky Zone the cost is \$12 per hour.

★ My age is twice my sister's age minus 5

★ My dogs age is 3 times my age minus 10

★ I am buying candy for my friends. The candy costs \$1.25 for each friend.

I got 7 less than 3 times the points of my teammate.

★ My score was 12 less than 100

To join the gym. There is a \$25 membership fee and \$19.99 per month.

★ The cost of renting a bike is a \$12 fee plus \$6 per day.

The cost is \$10 less than the competitor's price.

★ I have \$200 in my savings account and plan to save an additional \$10 per week

I charge \$40 to shovel your driveway all winter plus and additional \$8 each time it snows.

★ Add 5 to 3 times a number

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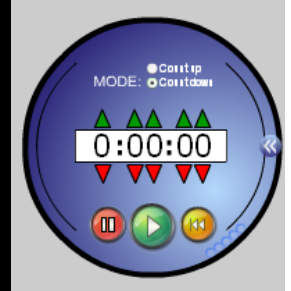
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Happy Tuesday!!

Make sure you have....

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Check your homework... Did you write an ALGEBRAIC EXPRESSION for each problem? If so, you should have used a variable!



Tuesday

Day 4-Simplifying Algebraic Expressions

Vocabulary Review:

Numerical Expressions

Algebraic Expressions

Variable

Like Terms

Co-efficient

Like Terms

*Terms with the same variables (including exponents) are like terms...so, to identify like terms, you look at the variables!!!

$$4a^2$$
$$-6a^2$$

$$2b^2$$
$$0^2$$

$$5b$$
$$3b$$

$$5$$
$$3^2$$

$$3a$$
$$2a$$

$-5y$
 $9y$
 $5y$

$4xy$
 $5xy$
 $-7xy$

$3x$
 $2x$
 $-2x$
 x

y^2
 $9y^2$
 $-4y^2$
 $-2y^2$

10 6

10^2 7^3

Drag into groups of "like Terms"

Combining "Like Terms"

Vocabulary Review

Co-efficient: the constant (number) that is multiplied by the variable

Variable: usually a letter...represents a changing or unknown value

Like Terms: Terms with the same variable

Name _____ Period _____

Guided Practice

Simplifying Algebraic Expressions

Identify like terms in each list.

1. $3a$ b^2 b^3 $4b^2$ 4 $5a$

2. x x^4 $4x$ $4x^2$ $4x^4$ $3x^2$

3. $6m$ $6m^2$ n^2 $2n$ 2 $4m$ $5n$

4. $12s$ $7s^4$ $9s$ s^2 5 $5s^4$ 2

Independent Practice

Name _____ Date _____ Class _____

LESSON **Practice A** **1-9** Simplifying Algebraic Expressions

Identify like terms in each list.

1. $6a$ b a 17 $4b$ 32 $17a$

2. x x^2 $3x$ 3 $3x^2$ 6

3. 2 $6z$ $6z^2$ z $17z$ z^2 3

4. m 8 $8m^2$ $8m$ m^2 $12m$ 18

5. $2p$ $22p$ $56q$ 12^2 q 34

6. d d^2 $15d^2$ $2d$ 4^2 $5d$ 44

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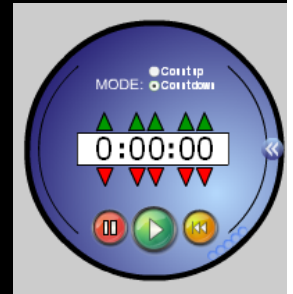
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Happy Wednesday!!

Make sure you have....

- 1) Pencil, notebook & CALCULATOR
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What is a LIKE TERM?



Wednesday

Quiz

Combining Like
Terms

Combining "Like Terms"

To add or subtract like terms...simply add or subtract the co-efficient and keep the variable...

$$3y + 4y = 7y$$

$$5x - 2x = 3x$$

$$7x + 4x + 5x = 16x$$

$$9y^3 - 12y^3 = -3y^3$$

Some expressions will have many terms...

1) identify like terms

2) combine only the like terms...pay attention to the operation!!!

$$3x - 2x + 4 = 1x + 4$$

$x + 4$

$$3a + 3b + 2 - 2a + 5b - 1 = a + 8b + 1$$

Simplifying Algebraic Expressions

Combine like terms.

1. $6p^2 + 3p^2$

$9p^2$

2. $9x^2 - 6x$

$3x$

3. $a^2 + b^2 - 2a^2 + 5b^2$

$3a^2 + 6b^2$

4. $7h^2 - 3 - 2h^2 + 4$

$5h^2 + 7$

5. $3x - 3y + x + y + z$

$4x - 4y + z$

6. $5b + 5b + 6b^2 - 10 - 3b$

$7b + 6b^2 - 10$

7. $x^2 + 3x^2 - 4^2$

$4x^2 - 16$

8. $2p + 22q^2 - p$

$p + 22q^2$

9. $4a + 4b + 2 - 2a + 5b - 1$

$2a + 9b + 1$

10. $n^4 + n^2 + 3n^4 - n^4$

$n^4 + 2n^2$

11. $2h^2 - 3g - 2h^2 + 2^2 - 3 + 4g$

$7g + 1$

12. $32m^2 + 14n^2 - 12m^2 + 5n^2 - 3$

$20m^2 + 14n^2 + 5n^2 - 3$

13. Find the perimeter of the rectangle.

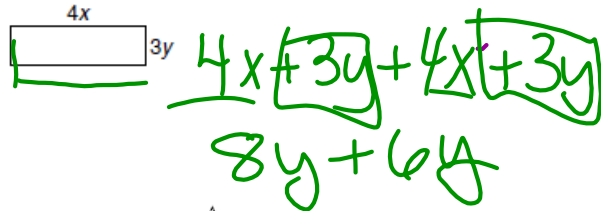
Combine like terms.

A $4x + 3y$

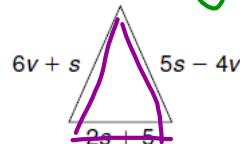
B $8x + 6y$

C $12xy$

D $4x^2 + 3y^2$



14. Write an expression for the perimeter of the figure at the right. Then simplify the expression.



$(6v + s) + (5s - 4v) + (2s + 5)$
 $2v + 8s + 5$



What problems do you want to see from last night's homework? Drag to green area!

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 20
 22 ²23 24 25 26 27
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 No clue how to do the hw
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14
 10 11
 14 14
 11
 6 14 14

Happy Thursday!!

Make sure you have....

- 1) Pencil, notebook & CALCULATOR
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What is a LIKE TERM?

What do we have to consider, when simplifying algebraic expressions!

See Me:

4/5: Ustina, Zarria, Alyssa, Jordan, Eddie, HaiChin

6/7: Emily Cameron, robert Zach

12: Kyle B

$$\begin{array}{r}
 3x \quad 2x \quad 500x \\
 18x \quad -1x \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 36x^2y^2 \\
 12x^2y^2 \quad 500y^2
 \end{array}$$

$$\begin{array}{r}
 40 \quad 53 \quad 42 \quad 28 \\
 65 \quad 32 \quad 500^2 \quad 8 \\
 472 \quad 369 \quad 10
 \end{array}$$

LESSON **Challenge**
1-9 **Matching Terms**

Draw a line from each set of terms in Column A to its equivalent combination in Column B. Then circle each letter in Column B that does not have a matching term. Unscramble those letters to answer the riddle.

Column A	Column B
1. $2x + 7 - 5x - 4 - x$	A. $5y + 9x + 12$
2. $5 + 7x + 2x - 3 + 6$	B. $12y + 6x + 24$
3. $x + y + 4x - 3x + 2y + 3y$	C. 15
4. $3x^2 + 5x + 20 + 6x - 17$	D. $9x + 8$
5. $4x + x^2 + 12 - 4 + 2x$	E. 4
6. $12y + 12x + 12 - 6x + 12$	F. $6x + 3$
7. $12y + 4 + x - 7y + 8 + 8x$	G. $11x + y + 7$
8. $5x + x^2 + 2x + 5 - 4 - x^2$	H. $x^2 + 6x + 8$
9. $5x^2 + 8x + 7x^2 + 6x$	I. $4x$
10. $12x + 6 - 8x - 4x - 3 + 12$	J. $3x^2 + 11x + 3$
11. $5x + 4 - 3x + 5 - 2x - 9$	K. $3x + 2$
12. $4x + 2y + 8 - 3 - y - x$	L. $3x^2$
13. $4x + 5 + 7x + 2y + 2 - y$	M. $6x$
14. $2y + 2x + 8 - 6 - x - 2y$	N. $x^2 + 3x$
15. $4x + 6y + 6 + 7x + y$	O. $6x^2 + 6y + 1$
16. $3x^2 + 4x - 2x^2 - 3x + 2x$	P. $12x^2 + 14x$
17. $8x + 4 - 4 - 4x + x$	Q. $7x + 1$
18. $y + 5x + 6y + 9 - 6$	R. x^2
19. $x^2 + 3 + 2x^2 + 4 - 7$	S. $5x + 7y + 3$
20. $5y + 3 + 7x^2 - 2 - x^2 + y$	T. 0
	U. $2x + 6y$
	V. $3x + y + 5$
	W. $11x + 7y + 6$
	X. $5x$

Handwritten notes and markings on Column A:

- Item 1: $2x + 7 - 5x - 4 - x$ circled in purple.
- Item 2: $5 + 7x + 2x - 3 + 6$ circled in purple.
- Item 3: $x + y + 4x - 3x + 2y + 3y$ circled in blue. Next to it is written $2x + 6y$ in blue.
- Item 4: $3x^2 + 5x + 20 + 6x - 17$ circled in green.
- Item 5: $4x + x^2 + 12 - 4 + 2x$ circled in green.
- Item 6: $12y + 12x + 12 - 6x + 12$ circled in green.
- Item 7: $12y + 4 + x - 7y + 8 + 8x$ circled in green.
- Item 8: $5x + x^2 + 2x + 5 - 4 - x^2$ circled in green.
- Item 9: $5x^2 + 8x + 7x^2 + 6x$ circled in green.
- Item 10: $12x + 6 - 8x - 4x - 3 + 12$ circled in green.
- Item 11: $5x + 4 - 3x + 5 - 2x - 9$ circled in red. Next to it is written $4x$ in red.
- Item 12: $4x + 2y + 8 - 3 - y - x$ circled in blue.
- Item 13: $4x + 5 + 7x + 2y + 2 - y$ circled in blue. Next to it is written $11x + 7 + y$ in blue.
- Item 14: $2y + 2x + 8 - 6 - x - 2y$ circled in yellow.
- Item 15: $4x + 6y + 6 + 7x + y$ circled in red.
- Item 16: $3x^2 + 4x - 2x^2 - 3x + 2x$ circled in red. Next to it is written $x^2 + 3x$ in red.
- Item 17: $8x + 4 - 4 - 4x + x$ circled in blue. Next to it is written $5x$ in blue.
- Item 18: $y + 5x + 6y + 9 - 6$ circled in blue.
- Item 19: $x^2 + 3 + 2x^2 + 4 - 7$ circled in blue.
- Item 20: $5y + 3 + 7x^2 - 2 - x^2 + y$ circled in blue. Below it is written $6y + 1 + 6x^2$ in blue.

Handwritten note: $3x + 2$ in purple.

Riddle: What can be a word, a number, a period of time, or a variable?

A _____

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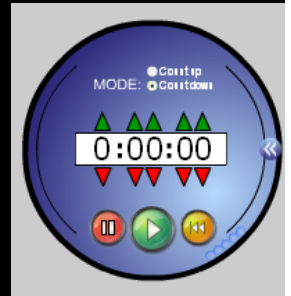
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What is a LIKE TERM?



Review

Identify the like terms:

$2x$ $4y$ $-10x^2$ $-3x$ y $12t$ $6y$ $2x^2$ $-11t$

I can only add or subtract like terms.

Add: $2x + 3x = 5x$ $2 + 3x$ $2y + 3y + y = 6y$

I can multiply or divide any factors...like or not!

Multiply: $2(3x) = 6x$ $12x(3) = 36x$ $2y(4) = 8y$ $5x(2)(3) = 30x$

$2x(3y) = 6xy$ $x(3y) = 3xy$ $3x(2x) = 6x^2$

Distributive Property Review

The Distributive Property:

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

Where a , b and c are any real numbers.

First, let me remind you what it means when two letters are right next to each other in math. This is an Algebra thing!

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

When two things are next to each other,
it means **multiplication!**



Key Concept

Distributive Property

Words To multiply a sum by a number, multiply each addend of the sum by the number outside the parentheses.

Examples

Numbers

$$3(4+6) = 3(4) + 3(6)$$

$$5(7) + 5(3) = 5(7+3)$$

Algebra

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

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

Review...

$$2(6 + 8)$$

$$12 + 16$$

$$\textcircled{28}$$

$$5(9 - 3)$$

$$45 - 15$$

$$\textcircled{30}$$

$$7(4 + 7)$$

$$28 + 49$$

$$\textcircled{77}$$

The Distributive Property

GUIDED PRACTICE

Day 1: Use the Distributive Property to write each expression as an equivalent algebraic expression.

Day 2: Simplify each expression that you rewrote.

1. $8(5x+4x)$
 $40x + 32x$
 $72x$

2. $2x(2+9)$
 $4x + 18x$
 $22x$

3. $2(60x+4)$
 $120x + 8$

4. $7(40-2x)$
 $280 - 14x$

5. $3y(7+11)$
 $21y + 33y$
 $54y$

6. $10(12t-4t)$
 $120t - 40t$
 $80t$

7. $5n(21+9) + 6n$
 $105n + 45n$
 $150n$

8. $7(1x-10x)$
 $7x - 70x$

INDEPENDENT PRACTICE

Day 1: Use the Distributive Property to write each expression as an equivalent algebraic expression.

Day 2: Simplify each expression that you rewrote.

1. $4(d+2)$
 $4d + 8$

2. $1(5u-3u)$
 $5u - 3u$
 $2u$

3. $6(f+5)$
 $6f + 30$

4. $2(g+3g)$
 $2g + 6g$
 $8g$

5. $5(2y-y)$
 $10y - 5y$
 $5y$

6. $7(a+1)$
 $7a + 7$

7. $11(k+20)$
 $11k + 220$

8. $9(r+3r)$
 $9r + 27r$
 $36r$

9. $3x(7-1)$
 $21x - 3x$
 $18x$

10. $10(c+9)$
 $10c + 90$

11. $2(11-g)$
 $22 - 2g$

12. $4(12f-f)$
 $48f - 4f$
 $44f$

13. $6(2r+20r)$
 $12r + 120r$
 $132r$

14. $7(2-j)$
 $14 - 7j$

15. $1(m+1)$
 $m + 1$

16. $2(v+8v)$
 $2v + 16v$
 $18v$

The Distributive Property

GUIDED PRACTICE

Day 1: Use the Distributive Property to write each expression as an equivalent algebraic expression.

Day 2: Simplify each expression that you rewrote.

1. $8(5x + 4x)$

2. $2x(2 + 9)$

3. $2(60x + 4)$

4. $7(40 - 2x)$

5. $3y(7 + 11)$

6. $10(12t - 4t)$

7. $5n(21 + 9)$

8. $7(1x - 10x)$

INDEPENDENT PRACTICE

Day 1: Use the Distributive Property to write each expression as an equivalent algebraic expression.

Day 2: Simplify each expression that you rewrote.

1. $4(d + 2)$

2. $1(5u - 3u)$

3. $6(f + 5)$

4. $2(g + 3g)$

5. $5(2y - y)$

6. $7(a + 1)$

7. $11(k + 20)$

8. $9(r + 3r)$

9. $3y(7 - 1)$

10. $10(c + 9)$

11. $2(11 - q)$

12. $4(12f - f)$

13. $6(2r + 20r)$

14. $7(2 - f)$

15. $1(m + 1)$

16. $2(v + 8v)$

What problems do you want
to see from
last night's homework?
Drag to green area!

1 2 3 4 5 6 7 8
9 10 11 12 13 14 15
16 17 18 19 20 21
22 23 24 25 26 27
28 29 30 31 32
33 34 35 36

No clue how to do the hw
...very confused!

Happy Monday!!

Make sure you have....

- 1) Pencil, notebook & CALCULATOR
- 2) HW Out
- 3) Write homework in planner...
remember test Wednesday on this unit!

What is a LIKE TERM?

Can we add or subtract UNLIKE Terms?

Can we multiply UNLIKE factors?

Today we will apply the distributive property
and combining like terms to simplify algebraic
expressions :)

The Distributive Property

Day 1: Complete Section A.



A. Use the Distributive Property to write each expression as an equivalent algebraic expression. Simplify.

1) $3(11 + 12) - 6$

$33 + 36 - 6$
 63

2) $5(10 + 25) + 12$

$50 + 125 + 12$
 187

3) $2(x + 4) + 6x$

$2x + 8 + 6x$
 $8x + 8$

4) $4x(6 + 7) - 2x$

$24x + 28x - 2x$
 $50x$

5) $a(a + 2) + 3a^2$

$a^2 + 2a + 3a^2$
 $4a^2 + 2a$

6) $3x(2x + 1) + 4x^2$

$6x^2 + 3x + 4x^2$
 $10x^2 + 3x$

B. Apply the Distributive Property to the expressions in Section B. Simplify.

7) $9(b + 1) - 6$

8) $x(2 + y) + 3xy$

9) $2(4x + 9y) - 3x$

10) $30(b + 2) + 2b$


11) $18y + 5(7 + 3y)$

12) $14(b + 3) + 8b$

Name _____ Period _____ Date _____

Day 3: Apply the Distributive Property to the expressions in Section C. Simplify.

C.


 13) $2(9 + 3f) + f$

14) $x + 5x + 8(x + 2)$

15) $8(r + 15) + 7(2r + 10)$

16) $3(8 + a) + 7(6 + 4a)$

17) $4(b + 2) + 3(c + 1)$

 18) $2x(3 + 2y) + 15xy$

Challenge Problem

$$4x(x + y) + 3y(2x + 2y) + x^2(1 + 11) - 6y^2$$

Tuesday/Wednesday review day

Name _____ Period _____

Algebraic and Numerical Expressions Study Guide

Write a numerical expression to represent each statement.

- 1.) The product of thirteen and four. 2.) The quotient of twenty-seven and three. 3.) Three times the sum of six and five

Write an algebraic expression to represent each statement.

- 4.) four times a number 5.) The product of Jim's weight and seven

Word Problems:

- 6.) Joe's car needs to be repaired. The cost of the repair is going to be \$10 per hour for labor and an additional \$25 for parts. Write an **algebraic expression** that represents the cost of the car being repaired. Then find the cost of the repair, if it took 4 hours to repair the car. Show your work.

- 7.) Sue's age is four times her cat's age plus 5 years. Write an **algebraic expression** that represents Sue's age. Use c to represent the cat's age. Then find Sue's age, if her cat is 2. Show your work.

- 8.) A. You are going to the store to buy chips and pop. The pop is \$1.50 per bottle and the chips cost \$3.00 for each bag. Write an **algebraic expression** to represent the total cost of buying any number of chips and any number of pop bottles.

- B. Evaluate the expression above to find the total cost of 10 bottles of pop and 5 bags of chips. Show your work.

Simplify each expression.

9.) $2y + 3y$

10.) $15xy + 6xy - 13xy$

11.) $6x + 4 + 2x + 7$

12.) $13x^2 + 12x + 7x + 6x^2$

13.) $2y + 13x + 14 + 7x + 7y - 2 + 4y^2$

Use the distributive property to rewrite each expression. Then simplify the expression.

12.) $12(x + 3x)$

13.) $3x(4 + 5)$

14.) $6(3y - y) + 7$

15.) $14(b + 3) + 6b$

16.) $8y + 4(7 + 3y)$

Friday Test Day

1. Preparedness

2. Respect

3. Integrity

4. Determination

5. Excellence

