Day One
Translating Words Into Numerical Expressions

**Vocabulary Review:**
Numerical Expression
**Translate Verbal Phrases into Expressions**

**Key Words**

<table>
<thead>
<tr>
<th>Add</th>
<th>Subtract</th>
<th>Multiply</th>
<th>Division</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sum</td>
<td>Difference</td>
<td>Per</td>
<td>Quotient</td>
</tr>
<tr>
<td>Total</td>
<td>Minus</td>
<td>For Each</td>
<td>Divided by</td>
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<tr>
<td>Plus</td>
<td>Decreased by</td>
<td>For Every</td>
<td>Among</td>
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<tr>
<td>Increased by</td>
<td>Less than</td>
<td>Product</td>
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<tr>
<td>More than</td>
<td></td>
<td>of</td>
<td></td>
</tr>
</tbody>
</table>

**Examples:**
- **Add:** 2 + 3
- **Subtract:** 5 - 2
- **Multiply:** 4 × 3
- **Divide:** 8 ÷ 4

**Key Phrases:**
- For Each
- Among
- Increased by
- More than
- Less than
- Product
- Per
- Minus
- Difference
- Decreased by
- Total
- Plus
- Sum
- Add

**Key Words:**
- Key Words
- Translate
- Verbal Phrases
- Expressions
- Add
- Subtract
- Multiply
- Division
- Sum
- Total
- Plus
- Increased by
- More than
- Decreased by
- Less than
- For Each
- Among
- Per
- Product
- Quotient
- Divided by
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 increased by twenty-five  \[ 100 + 25 \]
6. three more than one dozen  \[ 12 + 3 = 15 \]
7. the product of twenty and thirty  \[ 20 \times 30 \]
8. five less than fifty  \[ 50 - 5 \]
Independent Practice/Homework

Write a numerical expression for each verbal phrase.

1. eleven less than twenty
   \(20 - 11\)

2. twenty-five increased by six
   \(25 + 6\)

3. sixty-four divided by eight
   \(64 \div 8\)

4. the product of seven and twelve
   \(7 \times 12\)

5. the quotient of forty and eight
   \(40 \div 8\)

6. sixteen more than fifty-four
   \(54 + 16\)

7. six groups of twelve
   \(6 \times 12\)

8. eighty-one decreased by nine
   \(81 - 9\)

9. the sum of thirteen and eighteen
   \(13 + 18\)

10. three times seventeen
    \(3 \times 17\)
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  
   \[\text{not written}\]
2. twenty-five increased by six  
   \[\text{not written}\]
3. sixty-four divided by eight  
   \[\text{not written}\]
4. the product of seven and twelve  
   \[\text{not written}\]
5. the quotient of forty and eight  
   \[\text{not written}\]
6. sixteen more than fifty-four  
   \[\text{not written}\]
7. six groups of twelve  
   \[\text{not written}\]
8. eighty-one decreased by nine  
   \[\text{not written}\]
9. the sum of thirteen and eighteen  
   \[\text{not written}\]
10. three times seventeen  
   \[\text{not written}\]
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?

No clue how to do the hw...very confused!
Day Two
Translating Words Into Algebraic Expressions

Vocabulary Review
Algebraic Expressions
Variables

Algebraic Expressions

- The letter $x$ is most often used as a variable.
- $7d$ means $7 \times d$.
- $mn$ means $m \times n$.
- $\frac{b}{5}$ means $b \div 5$. 
Translate Verbal Phrases into Expressions

Key Words

Add  Subtract  Multiply  Division
Sum    Difference  Per  Quotient
Total  Minus    For Each  Divided by
Plus   Decreased by  For Every  Among
Increased by  Less than  Product
More than
Guided Practice

Translating Algebraic Phrases (B)

Instructions: Write an algebraic expression for each phrase.

1. the sum of a number and thirty-seven
   \[ n + 37 \]
2. the quotient of sixty-one and a number
   \[ \frac{61}{n} \]
3. a number increased by ninety-three
   \[ n + 93 \]
4. the product of thirty-two and a number
   \[ 32n \]
5. the product of twenty-five and a number
   \[ 25n \]
6. the difference between a number and eight
   \[ n - 8 \]
7. nine more than a number
   \[ 9 + n \text{ or } n + 9 \]
8. fifty-nine times a number
   \[ 59n \]
9. the quotient of a number and ninety-seven
   \[ \frac{n}{97} \]
10. fifty-nine times a number
    \[ 59n \]
11. seventeen times a number
    \[ 17n \]
12. the sum of sixty-one and a number
    \[ 61 + n \]
13. a number decreased by eighty-six
    \[ n - 86 \]
14. the difference between ninety and a number
    \[ 90 - n \]
15. eighty-one less than a number
    \[ n - 81 \]

ALGEBRA Translate each phrase into an algebraic expression.

1. six times a number minus eleven
   \[ 6n - 11 \]
2. the product of eight hundred and a number
   \[ 800n \]
3. the quotient of thirty and the product of ten times a number
   \[ \frac{30}{10n} \]
4. five times the sum of three and some number
   \[ 5(3 + n) \]
5. half the distance to the school
   \[ \frac{d}{2} \text{ or } \frac{1}{2}d \]
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
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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
What problems do you want to see from last night’s homework? Drag to green area!

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?

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

Happy Monday!!

Make sure you have....

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

1. **Words**
   - Describe the situation. Use only the most important words.

2. **Variable**
   - Choose a variable that represents the unknown quantity.

3. **Expression**
   - Write an algebraic expression that represents your verbal description.

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**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 a number of downloaded songs. Then find the total cost if 20 songs are downloaded.
**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.

5 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

SOCCER Jason earns $20 \times \text{games} 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 refereing \( n \) games?

\[ 20n \]

\[ 20 \times 6 = 120 \]

SPARRIS Katrina has a savings account that contains $250. She decides to deposit $50 per month from her monthly earnings for babysitting after school. Write an expression to find how much money Katrina will have in her savings account after \( n \) months. Let \( n \) represent the number of months.

\[ 50n + 250 \]

\[ 5 \times 2 + 30 = 520 \]

\[ 5.12 + 230 \]

\[ 60 + 280 \]

\[ 290 \]

Music A Web site charges $6.99 to download a song and a $4.99 membership fee. Write an expression that gives the total cost to dollars to download any number of songs. Then find the cost of downloading 12 songs.

\[ 12 \times 4.99 + 6.99n \]

\[ 12 \times 4.99 + 6.99 \times 12 = 124.9 + 83.88 \]

\[ 124.9 + 59.4 \]

\[ 184.3 \]

Cars A car rental company's fees are shown.

13. 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 180 miles.

\[ 50 + 0.17m \]

\[ 50 + 0.17 \times 180 = 50 + 30.6 = 80.6 \]

14. 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 \( n \) miles. Then find the cost of renting a car for 2 days and driving 70 miles.

\[ 19.99d + 0.17m \]

\[ 19.99 \times 2 + 0.17 \times 70 = 39.98 + 11.9 \]

\[ 51.88 \]

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.

\[ CD + DVD = d \]

\[ 3c + 5d \]

\[ 3 \times 7 + 5 \times 4 \]

\[ 21 + 20 = 41 \]
A company rents a house boat for $200 plus an extra $30 per day.

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

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

My age is twice my sister's age minus 5
My dog's age is 3 times my age minus 10
I got 7 less than 3 times the points of my teammate.
My score was 12 less than 100

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

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 additional $8 each time it snows.

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

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

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

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

Add 5 to 3 times a number
What problems do you want to see from last night’s homework?
Drag to green area!

Happy Tuesday!!

Make sure you have....
1) Pencil, notebook & CALCULATOR
2) HW Out
3) Write homework in planner

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

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

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

\[
\begin{align*}
4a^2 & & 2b^2 & & 5b & & 5^2 & & 3a \\
-6a^2 & & \frac{b^2}{a} & & \frac{3b}{3} & & \frac{3}{2a} & & \end{align*}
\]
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
Guided Practice

Simplifying Algebraic Expressions

Identify like terms in each list.

1. 3a, 7b, b^3, 4b^2, 4, 5a

2. x^4, 4x, 4x^2, 4x^2, 3x^2

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

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

Independent Practice

Practice A

Simplifying Algebraic Expressions

Identify like terms in each list.

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

2. x, x^2, 3x, 3x^2, 6

3. 2, 6z, 6z^2, z, 17z, z^2, 3

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

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

6. d, d^2, 15d^2, 2d, 4^2, 5d, 44
Happy Wednesday!!

Make sure you have....
1) Pencil, notebook & CALCULATOR
2) HW Out
3) Write homework in planner

What is a LIKE TERM?

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!
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!!!

\[ 3x - 2x + 4 = \cancel{x} + 4 \]

\[ 3a + 3b + 2 - 2a + 5b - 1 = a + 8b + 1 \]
Simplying Algebraic Expressions

1. $6p^2 + 3p^2 = 9p^2$

2. $3x - 6x = 3x$

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

4. $7h^2 - 3 - 5h^2 + 4 = 2h^2 + 1$

5. $3x + 3y + x^2 + y + 2 = 4x + 4y + 2$

6. $5h + 5h^2 - 10 - 6b = 7h + 6b^2 - 10$

7. $x^2 + 3x - 4 = 4x^2 - 16$

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

9. $4a + 6b + 2 - 2a + 5b - 1 = 2a + 11b - 1$

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

11. $2h - 3g - 2f + 2^2 - 3 + 4g = 7g + 1$

12. $32m^2 + 14n^2 - 12m^2 + 5n - 3 = 8m^2 + 14n^2 + 5n - 3$

13. Find the perimeter of the rectangle. Combine like terms.
   A. $4x + 3y$
   B. $3x + 6y$
   C. $12xy$
   D. $4x^2 + 3y^2$

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

Make sure you have....
1) Pencil, notebook & CALCULATOR
2) HW Out
3) Write homework in planner

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

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
2 3 4 5 18 19 20 21
22 23 24 25 26 27
33 34 35 36 15
No clue how to do the hw...very confused!

3x 2x 500x
16x -1x

36x 2y 4x
12x 500x

40 3 42 50 8 28
42 2 50 8 36 9 10
**Challenge**

**Lesson 4**

**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.

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 2x + 7</td>
<td>A. 5y + 9x + 12</td>
</tr>
<tr>
<td>2. 5 + 7x + 2x - 3 + 6</td>
<td>B. 12y + 6x + 24</td>
</tr>
<tr>
<td>3. 4x + 6x + 3 + 2y + 3</td>
<td>C. 15</td>
</tr>
<tr>
<td>4. 3x^2 + 5x + 20 + 6x - 17</td>
<td>D. 9x + 8</td>
</tr>
<tr>
<td>5. 4x + x^2 + 12 - 4 + 2x</td>
<td>E. 4</td>
</tr>
<tr>
<td>6. 12y + 12x + 12 - 6x + 12</td>
<td>F. 6x + 3</td>
</tr>
<tr>
<td>7. 12y + 4 + x - 7y + 8 + 6x</td>
<td>G. 11x + y + 7</td>
</tr>
<tr>
<td>8. 5x + x^2 + 2x + 5 - 4 - x^2</td>
<td>H. x^2 + 6x + 8</td>
</tr>
<tr>
<td>9. 5x^2 + 8x + 7x^2 + 6x</td>
<td>I. 4x</td>
</tr>
<tr>
<td>10. 12x + 6 + 8x - 4x - 3 + 12</td>
<td>J. 3x^2 + 11x + 3</td>
</tr>
<tr>
<td>11. 5x^2 + 2x^3 + 3x^2 + 2x + 9</td>
<td>K. 3x + 2</td>
</tr>
<tr>
<td>12. 4x + 2x + 8 - 3 - y - x</td>
<td>L. 3x^2</td>
</tr>
<tr>
<td>13. 4x + 5 + 7x^2 + 2x + 2</td>
<td>M. 6x</td>
</tr>
<tr>
<td>14. 2x + 2x + 8 + 5 - 5x - 3y</td>
<td>N. x^2 + 3x</td>
</tr>
<tr>
<td>15. 4x + 6x + 10 + 7x + 3</td>
<td>O. 6x^2 + 6y + 1</td>
</tr>
<tr>
<td>16. 4x^2 + 5x + 2x^2 - 3x + 2x</td>
<td>P. 12x^2 + 14x</td>
</tr>
<tr>
<td>17. 8x^2 + 4x - 3x + 2x + x^2</td>
<td>Q. 7x + 1</td>
</tr>
<tr>
<td>18. y + 5x + 6y + 9 = 6</td>
<td>R. x^2</td>
</tr>
<tr>
<td>19. x^2 + x^2 + 4 - 7</td>
<td>S. 5x + 7y + 3</td>
</tr>
<tr>
<td>20. 5y + 3 + 7x^2 - 2 + x^2 + y</td>
<td>T. 0</td>
</tr>
</tbody>
</table>

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

A ____________ ____________
Happy Friday!!

Make sure you have....
1) Pencil, notebook & CALCULATOR
2) HW Out
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What is a LIKE TERM?

No clue how to do the hw ...very confused!
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: $2x + 3x = 5x$
$2 + 3x$
$2y + 3y = 5y$

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...

\[ 2(6 + 8) \]
\[ 12 + 16 \]
\[ 28 \]

\[ 5(9 - 3) \]
\[ 45 - 15 \]
\[ 30 \]

\[ 7(4 + 7) \]
\[ 28 + 49 \]
\[ 77 \]
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. \[a(x - 9)\]
   \[4x + 18x\]
   \[22x\]

3. 2(30x + 4)
   \[120x + 8\]
   \[280 - 14x\]

4. 7(40 - 2x)
   \[21y + 33y\]
   \[120 + 40t\]
   \[80t\]

5. \[3x(7 - 11)\]
   \[64y\]

6. 10(12t - 4t)
   \[120t - 40t\]
   \[80t\]

7. 5n(21 + 9)
   \[105n + 45n\]
   \[150n\]

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(x + 2)
   \[4x + 8\]

2. \[1(5u - 3u)\]
   \[5u - 3u\]

3. \[6(f + 5)\]
   \[6f + 30\]

4. \[2(g - 3g)\]
   \[2g + 6g\]

5. \[5(2y - y)\]
   \[10y - 5y\]

6. \[7(x - 1)\]
   \[7x + 6\]

7. \[11k + 220\]

8. \[9(r + 3r)\]

9. \[33(x - 1)\]

10. \[10(x + 8)\]

11. \[2(11 + y)\]

12. \[4(12f - f)\]
   \[48f - 4f\]

13. \[6(2x - 20r)\]

14. \[7(2 - 7)\]

15. \[1(m + 1)\]

16. \[2(y + 8x)\]
   \[2y + 16y\]
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. \(3x(7 + 11)\)  
6. \(10(12t - 4t)\)  
7. \(5p(21 - 9)\)  
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. \(11(x + 20)\)  
8. \(9(r + 3r)\)  

9. \(3x(x - 1)\)  
10. \(10(x + 9)\)  
11. \(2(11 - q)\)  
12. \(4(12f - \frac{1}{2}x)\)  

13. \(6(2r - 20r)\)  
14. \(7(2 - f)\)  
15. \(1(m + 1)\)  
16. \(2(y + 8x)\)
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 :)

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 2 17 18 19 20 21
22 2 23 24 25 26 27
28 29 30 31 32
33 34 35 36

No clue how to do the hw... very confused!
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) $14(b + 3) + 8b$
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

$4x(x + y) + 3y(2x + 2y) + x^2(1 + 11) - 6y^2$
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  
4.) Four times a number  
5.) The product of Jim’s weight and seven

Write an algebraic expression to represent each statement.

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.) \(15xy + 6xy\)  
11.) \(13xy\)  
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.) \(3(x + 5)\)  
14.) \(6(3y - 5) + 7\)  
15.) \(14(b + 3) + 6b\)  
16.) \(8y + 4(7 + 3y)\)
Friday Test Day
1. Preparedness
2. Respect
3. Integrity
4. Determination
5. Excellence