March 12, 2020

Dear Parents/Guardians,

I am sending home Math and/or Science materials for your son/daughter to work on in the event of a long-term closure due to the COVID-19 virus.

Hopefully, we will not have to utilize these plans. However, I want to make sure that we are prepared for the worst-case scenario.

In the event that we close, your child should work on 1-2 worksheets each day we are closed. I am not expecting the entire packet to be completed unless we are closed for an extended period of time.

If you have any questions or concerns, please contact me by email at:
ddangelo@carmelschools.org

Thank you for your continued support.

Sincerely,

Denise D'Angelo

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If you have any questions or concerns, please contact me by email at:
cdevico@carmelschools.org

Thank you for your continued support.

Sincerely,

Christine DeVico

Homework

Translate the written words into algebraic expressions.

1. A number increased by sixteen.

2. Twice a number subtracted by eight.

3. The difference of a number and twenty.

4. The quotient of a number and seven, added to six.

5. Twelve more points than Bob scored.

6. Nine times the amount of cookies that Karen had.

7. Thirteen dollars less than Frank had.

Translate the algebraic expression into written words.

8. $x + 10$

9. $3x - 5$

10. $\frac{x}{8}$

11a. A store sells each bike for $250. Write an expression for the amount of money it will receive if it sells b bikes.

b. How much will the store receive if it sells 12 bikes.

12a. The cable company charges $30 a month and $4.95 for each premium channel. Write an expression to find the cost for a month of cable service.

b. If the Smith family orders 5 premium channels, what would be the total cost?

Match each of the expressions.

11	Three times the sum of a number and seven			$4x + 3$
12	The product of fifteen and a number			$10 - x$
13	Three more than four times a number			$3(x + 7)$
14	The quotient of ten and a number			$6x + 4$
15	A number less than ten			$(x + 4)3$
16	A number added to fifteen			$15x$
17	Six diminished by a number			$4(12 - x)$
18	The sum of a number and four times three			$6 - x$
19	Four time the difference of twelve and a number			$10/x$
20	Six times a number increased by four			$x + 15$

Name _____ Date _____

Writing Expressions: write each phrase as an algebraic expression.

1. eight more than x _____

2. twelve less than b _____

3. the product of six and y _____

4. the quotient of a and four _____

5. the sum of nine and c _____

6. the difference of q and twelve _____

7. seven times d _____

8. twenty less n _____

9. six less than x _____

10. four more than y _____

11. the product of a and seven _____

12. the sum of one and w _____

13. the sum of eight and six times y _____

14. eight dollars less than Joni earned _____

15. Pak's salary minus a $223 deduction _____

16. twice as many flowers as Susan picked _____

17. six less than the product of eight and c _____

18. the cost of the tea plus ten cents tax _____

19. eight more than the number of meals served on Tuesday _____

20. eighteen less than the number of gameboard squares _____

21. sixty-three is one more than twice the number of miles Tim drove _____

22. the sum of nine and the quotient of x and seven _____

23. twelve less than twice the number of cows _____

24. seventeen inches less than three times Maria's height _____

25. five more than the number of paper clips divided into four groups _____

26. eighteen dollars more than three times Tony's wages _____

27. eight less than the number of apples divided into five groups _____

Distributive Property & Combining Like Terms

Do Now:

1. $5(y + 6)$	2. $(w - 10)2$	3. $-5(m - n)$
4. $-4x + 9x - 3$	5. $3b + a^2 - 6b^2 + 7a$	6. $5ab + 3b - 2a + ab$

Lesson: Distributive Property & Combining Like Terms (Expressions)

Steps: 1. Use the Distributive Property (why? PEMDAS)
2. Combine like terms

1. $6(x - 3) + 18$	2. $5(x + 3) + 8x$	3. $4x - 4(2 + x)$
4. $3(x + y) + 9(x + y)$	5. $x - 5(x - 10)$	6. $2(x + 4y) + 2x + y$
7. $22a + 4(3a + 10)$	8. $2(a - b) + 3(a - b) - 4a$	9. $n(8 + 6 + -19)$

Lesson: Distributive Property & Combining Like Terms (Equations)

Steps:
1. Use the Distributive Property
2. Combine like terms (each side of equations)
3. Solve 1- or 2- step equation
   - 1st + or −
   - 2nd x or ÷
4. Check:
   1. Write original equation
   2. Substitute solution for x
   3. Simplify (use order of operations – may take 2+ lines)

10. $2x + 4x = 42$	11. $6x - 10x + 2 = 22$	12. $5x - x = 12 - 2$
13. $-2(y - 9) = -24$	14. $3(x - 1) + 2 = 8$	15. $3(x - 3) + 12 = 15$

Solve and Check!

16. $20x - 4(x - 3) = 60$ ✓:	17. $5(x + 2) - 3x = 12$ ✓:

Name _____ Date _____

Math 8 Like/Unlike Terms/Combining

Directions: Are theses like terms? Yes/No

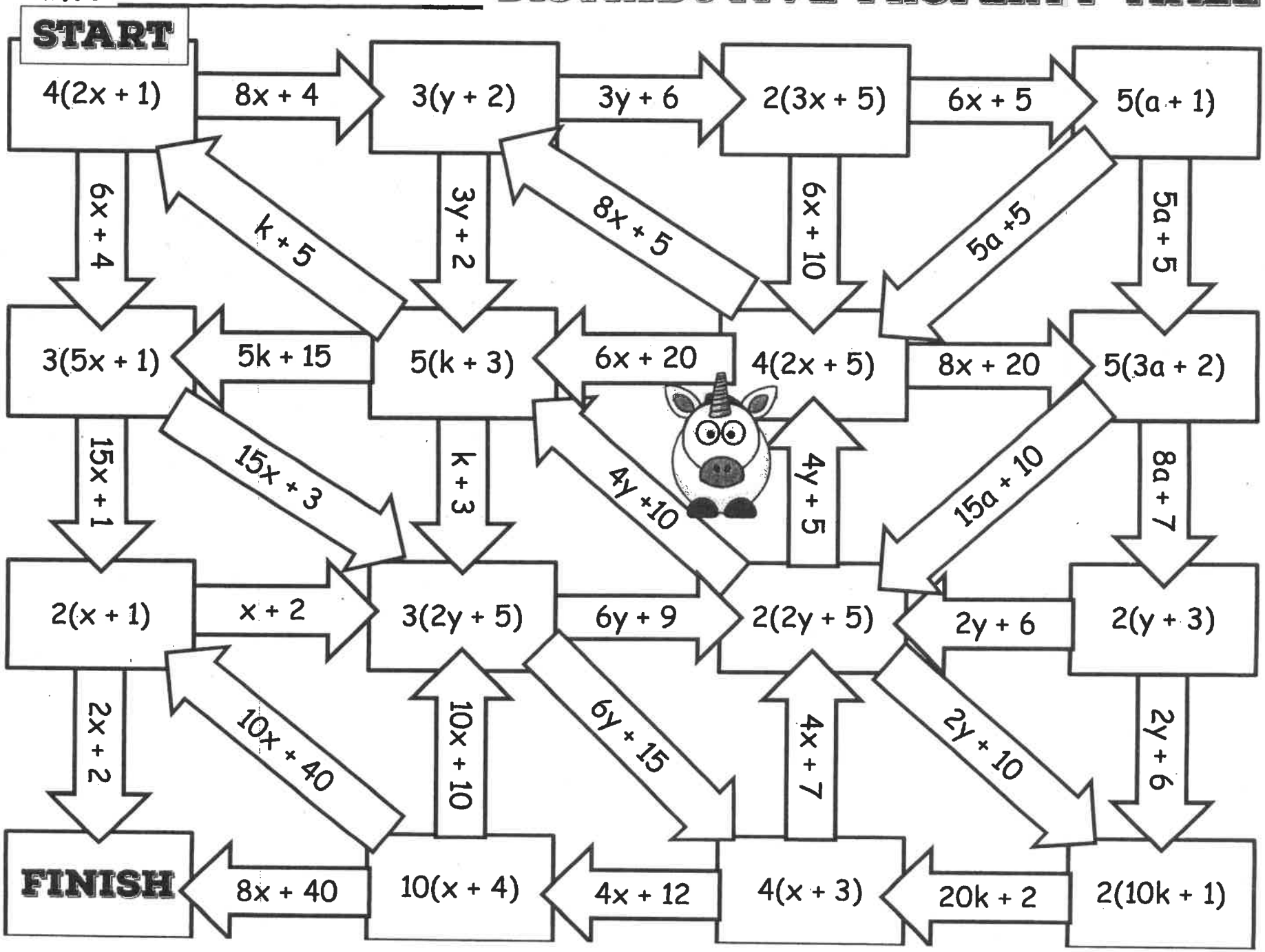
1) 12x and 12 y _____
2) 4x and 6x _____
3) 2a and 5b _____
4) 6ab and 10ab _____
5) $9x^2$ and $6x^2$ _____
6) $4ab^2$ and 2ab _____
7) n and 4n _____
8) $2n^2$ and $4n^3$ _____

Directions: Combine like terms.

1) $3m + 2m =$	2) $10x - 4x =$	3) $4x + 2y + 6x + 8y =$
4) $3x - 5 - 8x + 6 =$	5) $2x + 8x =$	6) $x + 9x + 10a - 6a =$
7) $-5a - 3a =$	8) $2x - 5 - 4x + 8 =$	9) $7m - 2m =$
10) $5x - 4 + x + 2 =$	11) $-6n + 4n =$	12) $10x^2 + 3x - x + x^2 =$
13) $-4n - 4n =$	14) $6x + 4 - 5x - 7 =$	15) $6x + 3 + 2x =$
16) $4x + 3 + 5x + 10 =$	17) $-5xy + 10xy - 4x + 2y =$	18) $12h - 3h + 5 =$

Name _____

DISTRIBUTIVE PROPERTY MAZE



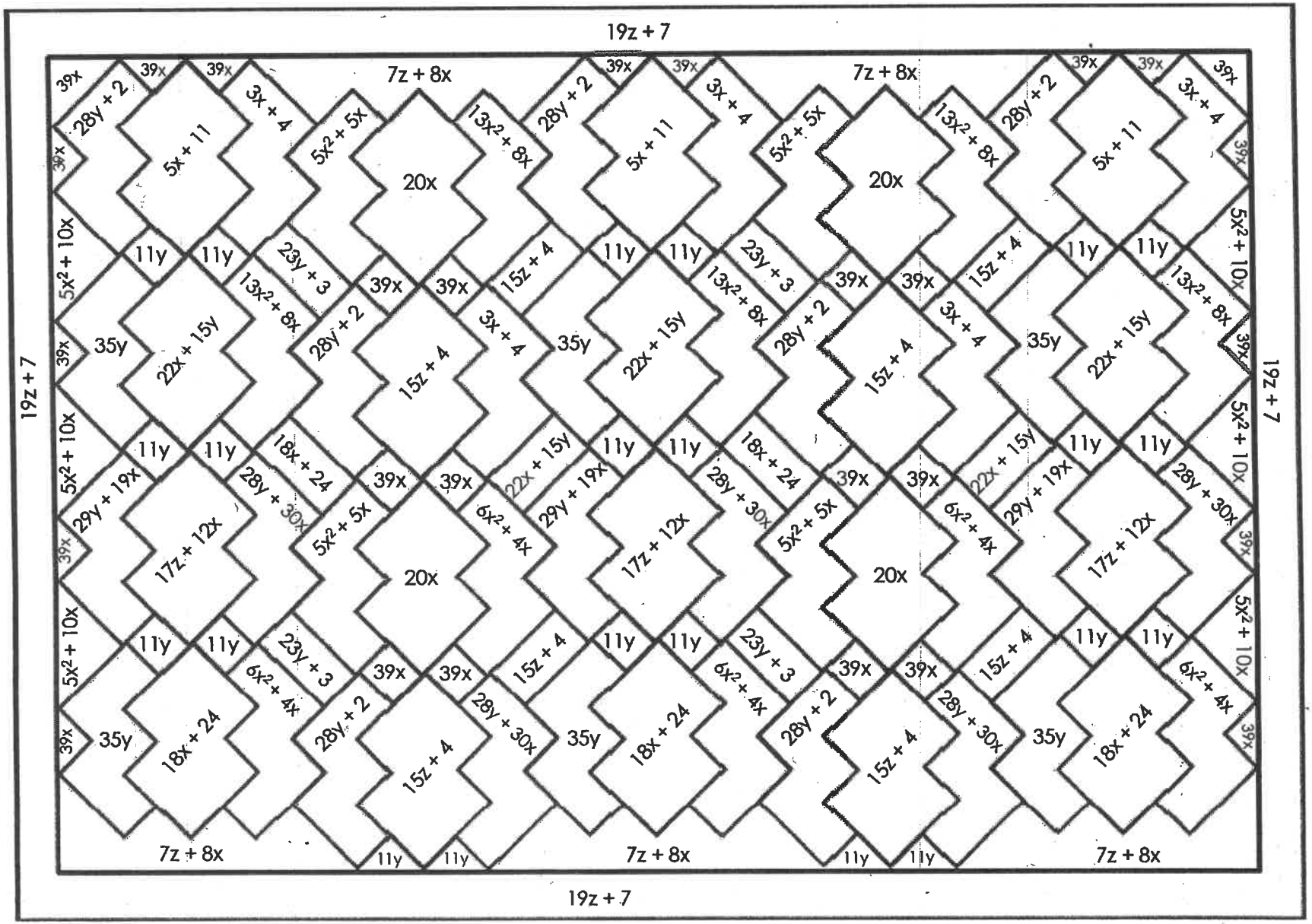
Name _____

Combining Like Terms Color by Number

Directions: Simplify each expression. Then find the simplified expression on the coloring sheet and color it with the color given in the box.

1 Simplify: $3x + 4 + 2x + 7$ Color this answer pink.	2 Simplify: $3z + 8x + 4z$ Color this answer yellow.	3 Simplify: $x + 2 + x + 2 + x$ Color this answer blue.	4 Simplify: $40x - x$ Color this answer yellow.	5 Simplify: $4x^2 + 8x + 9x^2$ Color this answer green.
6 Simplify: $25x + 17y - 3x - 2y$ Color this answer purple.	7 Simplify: $14 + 6z - 10 + 9z$ Color this answer pink.	8 Simplify: $7x^2 + 4x - x^2$ Color this answer green.	9 Simplify: $36y - 8y + 15 - 13$ Color this answer blue.	10 Simplify: $8y + 15x + 3y - 12x - 3x$ Color this answer yellow.
11 Simplify: $35x + 7z - 4z - 15x - 3z$ Color this answer purple.	12 Simplify: $3x^2 + 10x + 2x^2$ Color this answer yellow.	13 Simplify: $12z + 9x + 5z + 3x$ Color this answer pink.	14 Simplify: $31y - 20y + 24y$ Color this answer green.	15 Simplify: $27y + 13x + 2y + 6x$ Color this answer blue.
16 Simplify: $16 + 18y - 13 + 5y$ Color this answer pink.	17 Simplify: $20 + 13x - 5 + 5x + 9$ Color this answer purple.	18 Simplify: $13y + 14x + 15y + 16x$ Color this answer blue.	19 Simplify: $12x^2 + 5x - 7x^2$ Color this answer green.	20 Simplify: $9z + 15 + 10z - 8$ Color this answer blue.

Combining Like Terms Color by Number



Name: _____ Period: _____

Distributive Property & Combining Like Terms HW

Directions: **Use the distributive property and combine like terms if necessary to simplify each expression.**

1. $14(b + 3) + 8b$

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

3. $4(y + 2) + 3(y + 5)$

4. $8(3x - 2y) + 4[(-3x) + 4y]$

5. $-9(7y - 8y) + 12(6y - 7y)$

6. $7(3a - 2g) + 14(g - a)$

Directions: Use the distributive property and combine like terms if necessary to solve each equation. Show the check for *odd* numbered questions only.

7. $2b + 3(b - 7) = 44$ √:

8. $7y + 7(y + 3) = -21$

9. $-4(3+f) + 6f = -24$ √:

10. $5x + 3(x + 4) = 76$

11. $4z + 9 + 3(2z) = 129$ √:

12. $2v + 3(8 - v) = -16$

Name: _____ **Period:** _____

Two Step Equations #2

Directions: Solve each equation and check the solution.

1. **Identify operations that need to be undone.**
2. **Use PEMDAS in reverse to decide what to do first.**
3. **Use inverse operations to undo the equation.**
   - **Addition and subtraction undo each other**
   - **Multiplication and division undo each other**
4. **Get the variable by itself and check your solution.**

1) $6x + 7 = -5$ **CHECK:**

2) $5 = 6x - 7$ **CHECK:**

3) $\frac{x}{2} - 5 = 11$ **CHECK:**

4) $11 = \frac{x}{3} + 5$ **CHECK:**

5) $\frac{x}{5}$ - 1 = -31 **CHECK:**

6) -35 = 2x – 15 **CHECK:**

7) 5x – 10 = -35 **CHECK:**

Write an equation, solve, and then check your solution.

8) Five more than twice a number is twenty seven.

9) The Empire State building is 1,250 feet tall. This is 140 feet more than twice the height of the Washington Monument. Find the height of the Washington Monument.

Name _____ Date _____

Solving Two-Step Equations

1) $8x + 5 = 77$ Check:

2) $38 = -6n + 8$ Check:

3) $-4 + 2x = 16$ Check:

4) $\frac{x}{5} - 7 = 2$ Check:

5) $\frac{2}{3}x - 1 = 21$ Check:

Name: _____ Period: _____

Homework – Distributive Property to Solve Equations

Directions: Solve each equation and show all work. Show the check for odd numbered questions only.

1. $4(x + 6) = 52$

2. $-6(5 + 2x) = 18$

3. $-3 = -3(2x - 3)$

4. $4(-3x - 8) = 28$

5. $(2 - x)\,4 = 0$

6. $-60 = -6(-3x - 2)$

Name: _____ Period: _____

Homework 2 – Distributive Property & Combining Like Terms to Solve Equations

Directions: Solve each equation and show all work. You do not need to show the check for each equation but you should mentally check your answer to make sure it is reasonable.

1. $3(y-9)=30$

2. $6(3c-1)=-42$

3. $30+26=8(2x-1)$

4. $5(12x-4x)=120$

5. $50=3(2b+1)-7$

6. $4(2x+3)-6x=18$

Name: _____ Period: _____

Homework – Combining Like Terms to Solve Equations

Directions: Solve each equation and show all work. Show the check for odd numbered questions only.

1. $5x + 2x = 84$ Check:

2. $78 = -9a - 4a$

3. $-10p + 23p = -30 + 95$ Check:

4. $7y + 7y + 21 = -11 - 10$

5. $-12 + 4x + 8 = 42 + 18$ Check:

6. $66 = 3x + 12 + 5x - 10$

Name: _____ Period: _____ Date: _____

Lesson 2: Worksheet

Directions: Combine like terms and use the Distributive Property to solve the following equations.

1. $2(y-2)+1=7$ Check:

2. $4(2x-1)+10=62$ Check:

3. $5(x+2)-3x=12$

4. $18+4(x-9)=6$

5. $20x-4(x-3)=60$

Name: _____ Period: _____ Date: _____

Lesson 2: Activity

Directions: Begin working at one piece of chart paper. The problems numbered on the chart paper match the problems numbered on this worksheet. Solve these equations with your group on the chart paper.

1. $-3x - 5(-3x - 9) = 129$	6. $2x + 2(-2x + 6) = 36$
2. $-146 = 3x - 2(-7x - 12)$	7. $4 + 2(1 + x) = 12$
3. $x + 4(2x + 3) = 15$	8. $7x + 3(-6x + 5) = -62$
4. $-5x + 3(5x - 7) = 69$	9. $2(x + 7) + x = 20$
5. $2(3x - 1) + 2(4x + 3) = 8$	10. $-126 = -7x + 6(2x - 11)$

Name _____ Date _____

Word Problems

Directions: Write an equation and solve each problem.

1. Brooke works at Dunkin Donuts. She earns $64 a day plus $.30 for each cup of coffee she sells. If she earned $130 today, how many cups of coffee did she sell?

2. There are eighty people at a race. There are the same number of people on each of the seven teams and three judges who are not on a team. How many people are on each team?

3. Nate bought a magazine for $5 and four erasers at the same price. He spent a total of $10. How much did each eraser cost?

4) 331 students went on a field trip. Six buses were filled and 7 students traveled in cars. How many students were on each bus?

5) How old is Mario if 400 reduced by two times his age is 244?

6) Oceanside Bike Rental Shop charges a fourteen dollar fixed fee plus nine dollars an hour for renting a bike. Sierra paid sixty-eight dollars to rent a bike. How many hours did she pay to ride for?

7) Melanie bought a drink for $2 and four candy bars at the same price. She spent a total of $18. How much did each candy bar cost?

8) On Friday, 353 students went on a trip to the zoo. All 8 buses were filled and 9 students rode in a van. How many students were in each bus?

9) How old is Emmanuel if twice his age plus fifty-eight equals eighty-four?

Name: _____ Date: _____

Quiz: Translating and Solving Equations

Write an algebraic expression for each verbal phrase.

1. The quotient of six and a number _____
2. Twelve times a number diminished by five _____
3. A number less than ten _____
4. Four times the difference of a number and five _____

Write a verbal phrase for each algebraic expression.

5. $7x + 9$ _____
6. $3(x + 1)$ _____
7. $\frac{2x}{5} + 1$ _____

Solve each equation. Check 8 and 9.

8. $-3x + 6 = 21$ Check

9. $14 = \frac{x}{3} - 2$ Check

10. $10 = 4 - 2x$

11. $\frac{2}{3}x + 1 = 29$

Write an equation and solve each problem.

12. Brooke works at Dunkin Donuts. She earns $64 a day plus $.30 for each cup of coffee she sells. If she earned $130 today, how many cups of coffee did she sell?

13. There are eighty people at a race. There are the same number of people on each of the seven teams and three judges who are not on a team. How many people are on each team?