# 6th Grade Math Assignments
# April 13-24

This packet we have two options for assignments- online and on paper. You only need to do ONE set of assignments. (unless you're super bored and want to do both- knock yourself out)

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If you have internet access and want to work online, please **go to our Google Classrooms to see your Pearson and ALEKS assignments for this week**. There are videos and practice assignments posted there. If you are having trouble logging in to Google, Pearson, or ALEKS, please visit: **tinyurl.com/rax8h9n**

Ms. Lortie's Google code: **t4mku56**

Ms. Pham's Google code: **yzelatt**

Ms. Burnett's Google code: **no3mtnq**

Please still use the notes pages that came with this packet when you work online- *we are practicing the same skills in both places!*

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If you don't have access or would prefer to work on paper, here are this week's alternate assignments:

1. Work on the Skills Survey paper to practice basic skills (substitute for ALEKS)- both sides, all 40 questions. 1 paper is for each week.
2. Read through the notes on Combining Like Terms, the Distributive Property, and Solving Equations.
3. Work on the practice problems for all topics.

To turn in this work (just the worksheets, please keep the notes!), you can either

- Drop it off in the box at AMS by the breakfast/lunch pickup, on Wednesdays and Thursdays from 10:00AM-2:00PM. Please put your work back in the envelope and make sure your first and last name and your teacher's name is on it!
- Drop it off at Keeling, Holaway, or Rio Vista on Fridays from 8:00AM-12:30PM. Look for the black bin labeled AMS. Please put your work back in the envelope and make sure your first and last name and your teacher's name is on it!
- Take a picture of it and email it to your teacher, or upload it to the Google Classroom assignments.

Our websites have lots of ways to contact us if you need help. Please let us know! We miss you and hope you are doing well!


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Name: _____ Teacher:_____ Date: _____ Score: _____

| | | | |
|---|---|---|---|
| 1 $63 \div 21$ | 2 Round to nearest tenth: $23.68$ | 3 $341.86 + 12.95$ | 4 $92.83 \bullet 100$ |
| 5 Find the LCM: $2, 5$ | 6 $\frac{2}{5} \bullet \frac{2}{3}$ | 7 $\frac{10}{12} + \frac{1}{2}$ | 8 $1 + 3 \bullet 5$ |
| 9 $56 \div 2$ | 10 Round to nearest hundred: $456.98$ | 11 $60.45 - 12.09$ | 12 $.01905 \bullet 10000$ |
| 13 Find the GCF: $8, 20$ | 14 $\frac{1}{5} \div 7$ | 15 $\frac{4}{5} - \frac{3}{5}$ | 16 $7 - 6 + 7$ |
| 17 $36.3 \div 3$ | 18 Round to the nearest whole number: $12.89$ | 19 $112 + 18.06$ | 20 $23.12 \bullet 1000$ |

Name: _____ Teacher:_____ Date: _____ Score: _____

| | | | |
|---|---|---|---|
| 21 Find the LCM: $12, 30$ | 22 $8 \div \frac{1}{7}$ | 23 $\frac{8}{10} - \frac{2}{5}$ | 24 $(4 - 4) \div 3$ |
| 25 $5 \bullet 28$ | 26 Round to nearest hundredth: $1,236.814$ | 27 $921.8 - 801.96$ | 28 $0.0231 \bullet 1000$ |
| 29 Find the GCF: $14, 24$ | 30 $\frac{5}{6} \bullet \frac{4}{5}$ | 31 $\frac{6}{10} + \frac{2}{10}$ | 32 $10 + 10 \bullet 8 - 3$ |
| 33 $60 \bullet 35$ | 34 Round to nearest thousand: $4,568.1$ | 35 $509.9 + 62.8$ | 36 $0.05 \div 10$ |
| 37 Find the LCM: $3, 4$ | 38 $\frac{1}{4} \div 8$ | 39 $\frac{12}{14} - \frac{1}{7}$ | 40 $6 + 8 \bullet 2$ |

Name: _____ Teacher:_____ Date: _____ Score: _____

| | | | |
|---|---|---|---|
| 1 $90 \div 15$ | 2 Round to nearest hundreds: $563,472$ | 3 $8.5 + 1.3$ | 4 $4.121 \div 1000$ |
| 5 Find the LCM: $7, 9$ | 6 $\frac{12}{8} \bullet \frac{5}{6}$ | 7 $\frac{2}{10} + \frac{5}{10}$ | 8 $(8 \bullet 9) \div (4 \div 2)$ |
| 9 $91 \div 7$ | 10 Round to nearest tens: $4,273$ | 11 $5.65 - 1.04$ | 12 $2.458 \bullet 100$ |
| 13 Find the GCF: $34, 51$ | 14 $\frac{1}{2} \div 9$ | 15 $\frac{3}{7} - \frac{1}{3}$ | 16 $40 \div (24 + 4 - 8)$ |
| 17 $13.6 \div 4$ | 18 Round to nearest whole number: $364.3$ | 19 $6.8 - 2.5$ | 20 $26.2813 \bullet 10000$ |

Name: _____ Teacher:_____ Date: _____ Score: _____

| | | | |
|---|---|---|---|
| 21 **Find the LCM:** $6, 9$ | 22 $3 \div \frac{1}{12}$ | 23 $\frac{5}{12} + \frac{1}{12}$ | 24 $25 \div 5 + (5 + 5)$ |
| 25 $5 \cdot 17$ | 26 **Round to nearest tenths:** $36.75$ | 27 $8.1 + 9.4$ | 28 $777.12 \div 1000$ |
| 29 **Find the GCF:** $24, 36$ | 30 $\frac{4}{3} \cdot 6$ | 31 $\frac{5}{12} + \frac{1}{7}$ | 32 $8 - 6 \bullet (4 + 5)$ |
| 33 $40 \bullet 13$ | 34 **Round to nearest hundredths:** $6.136$ | 35 $102.2 - 4.6$ | 36 $14.111 \div 100$ |
| 37 **Find the LCM:** $17, 34$ | 38 $\frac{8}{7} \bullet \frac{1}{12}$ | 39 $\frac{2}{13} + \frac{2}{13}$ | 40 $18 + 18 \div (6 \bullet 3)$ |

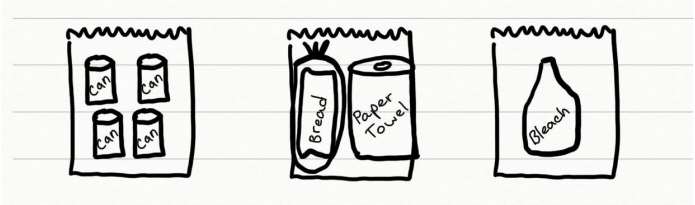
# Combining Like Terms

Picture putting groceries into bags at the store. If you buy these things...


How could you put them in bags? You wouldn't want to put some of those things together. The cans and the bleach could squish the bread. The bleach could spill on the food and then you couldn't eat it.

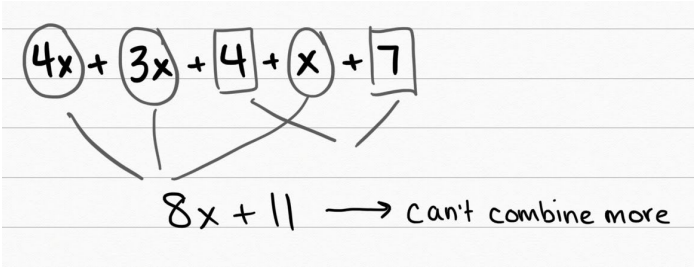
BUT you could put the same kinds of things in bags together- cans all together, soft squishy things together, and bleach by itself. You wouldn't want to mix them up any further though-

3 bags is the fewest you could use.




In algebra, we sometimes have more than one of the same kind of variable, or more than one constant (a number by itself). We can **combine like terms** to simplify our expressions and put the same kinds of things together. But we can't always combine everything- we might still end up with more than one term at the end. If we start with the expression:

**4x + 3x + 4 + x + 7**




We can put all the x variables together.
4x and 3x and one more x makes 8x in all.

We can put the 4 and 7 together, that makes 11.

But we can't put the 8x and the 11 together. They're not the same kind of thing.

**Combine Like Terms**- we simply an expression by adding or subtracting terms together if they are the same (put the groceries in the fewest bags without squishing or contaminating anything)

| Combine the **same variables** with the **same power**.<br><br>● x is not the same as $x^2$ - they can't go together!<br>● Different letters stay separate | **Add or subtract the coefficients** (numbers stuck to the front) of the variables.<br>● A variable without a coefficient has a coefficient of 1 (Identify Property of Multiplication) | **Add or subtract the constants** (numbers by themselves)<br><br>● The + or - sign in *front* of the term tells you what to do with it |
|---|---|---|
| x + x = 2x | 3y + 7y + y = 11y (3 + 7 + **1** = 11) | 2a **+ 8** - 7 the plus goes with 8, the minus goes with 7 |
| x + y does not equal 2xy | 7b + 2b - 5b = 4b (7 + 2 **-** 5 = 4) | If there's **no sign** in front of a term, it means **addition or positive!** |

# Combining Like Terms Practice

Directions: Simplify each expression to the fewest terms by combining like terms

Example:
15z + 3 - 2z + 7

**15z** + 3 **- 2z** +7  combine 15z and - 2z  15 - 2 = 13, so that simplifies to 13z
13z **+ 3 + 7**  combine 3 and 7  Both are adding, so 3 + 7 = 10
13z + 10  this expression can't be combined further, because 13z and 10 are different kinds of terms

1) 9g - 2g + 4

2) 6 - 4h + 5 + 7h

3) 3g + 6g - 8

4) x + 8x

5) 5 + 9h + 4h -3

6) 8m + 3m

7) 7k + 2 + 3 + 6k

8) 5k - k

9) 6 + 7c + 4

10) 8s - 4s + 5

# Distributive Property (over addition and subtraction)

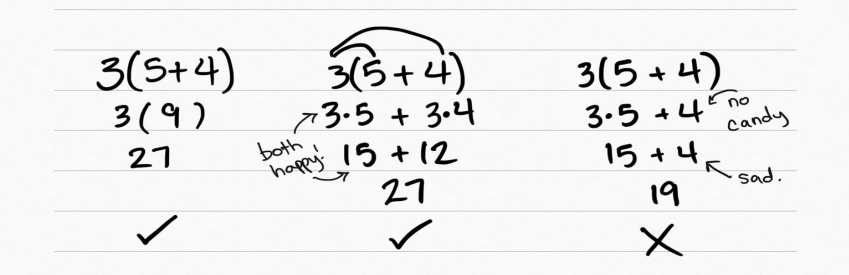
Teachers sometimes have candy. Students want candy. Here are two possible outcomes:


In algebra, when we have a **number stuck to the front of parentheses**, it means to **multiply** the outside number times everything in the parentheses.

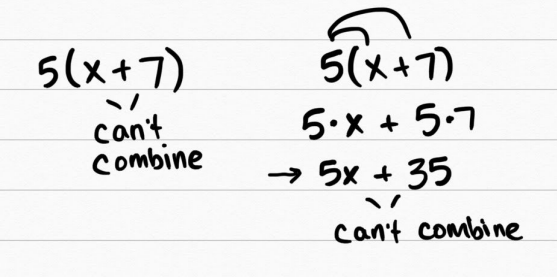
Sometimes, we can follow the order of operations and finish the parentheses first.

If we multiply first and then add, we get the same answer either way. Everybody gets a 3!

If we don't distribute the numbers properly to ALL the terms, we don't get the correct answer.
The 4 didn't get a 3. So sad.



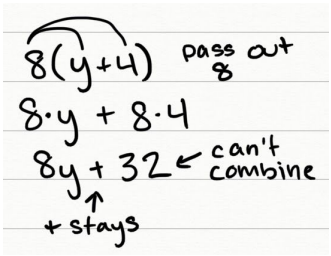
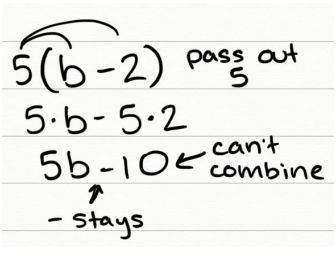
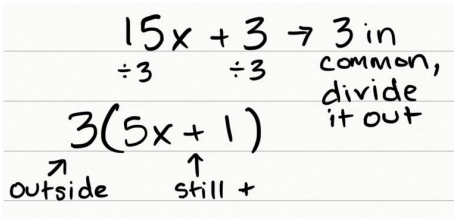

But if we have variables AND constants inside, we can't combine those, and so we can't finish solving the parentheses first. We have to just distribute the outside number to each of the inside numbers:




We multiply a 5 times each term inside the parentheses. Pass it out to everyone!

- 5 times x equals 5x
- 5 times 7 equals 35
- We keep the addition sign the same in between them.

5x can't be added to 35 because they're not the same kind of thing. We leave it as 5x + 35

| **Distributive Property over addition** | **Distributive Property over subtraction** | **Distributive Property- in reverse (factoring)** |
|---|---|---|
| • Multiply the outside number times each number inside<br>• Leave the addition sign | • Multiply the outside number times each number inside<br>• Leave the subtraction sign | • Look at the numbers to see what's in common (GCF)<br>• Divide out the common factor<br>• Common factor goes outside, leftovers go inside |
|  |  |  |

# Distributive Property Practice Problems

**Directions**: rewrite each problem as an equivalent expression by distributing the multiplied term to the terms inside parentheses

| | |
|---|---|
| Example: | 10 times 2y equals 20y |
| 10( 2y + 4 ) | 10 times 4 equals 40 |
| | The addition sign in the middle stays the same |
| 20y + 40 | The new equivalent expression would be 20y + 40 |

1. 5( 8 + 7r )
2. 3( 5 + 9c )
3. 4( 2x - 3 )
4. 6( 5w + 9 )
5. 5( 4 + p )
6. 6( 4 - 9x )

**Directions**: use the distributive property to factor the expression

| | |
|---|---|
| Example: | 16 and 12 have 4 in common, so divide each number by 4 |
| 16t + 12 | 16t ÷ 4 = 4t (divide the numbers, leave the variable) |
| | 12 ÷ 4 = 3 |
| 4( 4t + 3 ) | The common number goes outside, and the leftovers stay inside. Keep the same operation (+) in the middle. |

7. 18r + 6
8. 3x - 15
9. 25k - 10
10. 9 + 12y

# Solving
## 1 STEP EQUATIONS

NOTES PAGE!

### THE GOAL

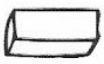
Get the variable alone on one side of the equation.

("ISOLATE" the variable)

### BUT HOW??

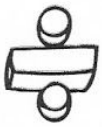
USE INVERSE OPERATIONS

Is the inverse operation for subtraction (will undo it).



Is the inverse operation for addition (will undo it).

Is the inverse operation for division (will undo it).



Is the inverse operation for multiplication (will undo it).


Undoing operations is a way to move unwanted parts that are on the variable side over to the other side of the equation.

But we have to be careful to keep things balanced / equal

*(Explain that we cannot just get rid of the term that starts on the same side as x. We must move it to the other side to keep the equation balanced. Perform that inverse operation on BOTH sides equally. It just LOOKS like we are getting rid of it because on one side we will get the variable plus ZERO.)

### SOLUTIONS

Solutions are values for the variable that will make the equation TRUE.

Solutions should look like:
(variable) = (number) Examples: g = 3, x = 15.

*(Remind students that they should NOT write only a number. Focus on the concept of making the equation TRUE when the variable is equal to the number. Any number can replace the variable (be "plugged in"), but only a SOLUTION will result in a TRUE equation.)

REMINDER:

Check solutions!
Replace the variable and verify that the equation is TRUE (you found a SOLUTION.)

# Practice

EXAMPLE

## solving 1 step equations

SOLVE FOR X:

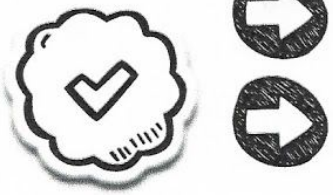
$18 = x \div 4$

Show work → $\cdot 4 \quad \cdot 4$

Answer → $72 = x$

Check:
$18 = 72 \div 4$

REMINDERS FOR WORK & ANSWERS



Only do/show one thing per line.

Show inverse operations on BOTH SIDES.

Check all solutions.

Name:
Answer Key / Teacher Guide

A SOLUTION IS...

a value for the variable that makes the equation

true

SOLVE FOR m

$m + 9 = 38$

$-9 \quad -9$

$m = 29$

Check: $29 + 9 = 38$

HOW DO INVERSE OPERATIONS WORK?

Opposite operations will

UNDO

one another.

(+ & -)
(x & ÷)

They will result in the variable times 1 or the variable plus 0. (which simplifies to the variable itself, alone.)

WHEN SOLVING, WHAT IS THE


Isolate the variable.

(Get it alone on one side of the equation.)

We do this by moving the other terms using inverse operations.

# Solving One-Step Equations Practice

Name _____
Date_____

**Directions:** Solve each equation. Show your work.

1. $x + 5 = 7$

2. $m \div 9 = 6$

3. $x - 3 = 5$

4. $12 = y - 4$

5. $4g = 16$

6. $3b = 27$

7. $6 = x \div 6$

8. $15 = 5c$

**Directions:** Write and solve an equation to answer the question.

11. At a restaurant, you and four friends divide the bill evenly. Each person pays $7.35. How much is the total bill?