Solving with Variables on Both Sides

Agenda

Warm-Up

Notes (Foldable) p.15

HW: #1-14 EVENS

Reminders

TEST Friday!

Essential Question

What steps do I take to solve equations with a variable on both sides?

Warm-Up (Monday)

Grab a cup of scissors for your table!

Cups go back at the end of class.

MAGIC NUMBER TRICK

- **Pick a number between 1 and 10**
- **Double your number**
- **Add ten**
- **Divide by 2**
- **Subtract your original number**
- **What did you get?**

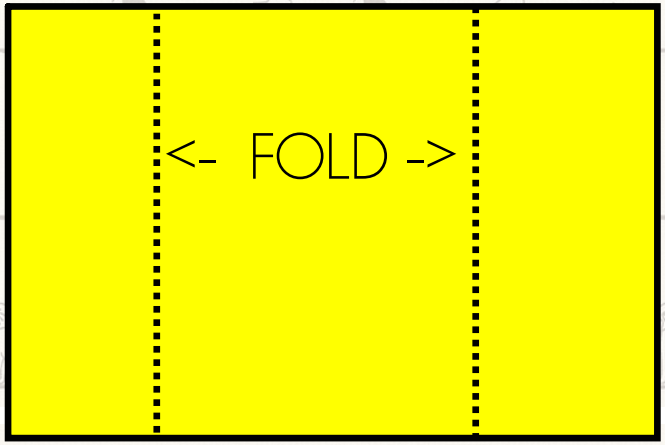
Solving with Variables on Both Sides

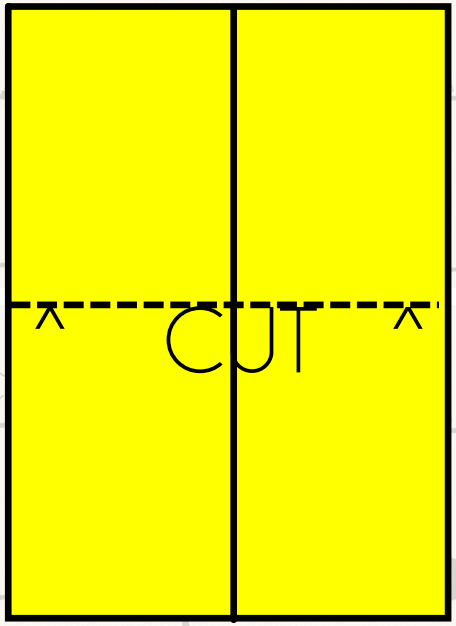
TEST Friday!

You are allowed to use a calculator, but NOT your notebook. Please come by for tutoring if you need help ASAP!

How to Solve an Equation

EQ: What steps do I take to solve equations with a variable on both sides?





You will have 4 flaps!

Glue onto page 15.

Solving with Variables on Both Sides

STEP 1

Distribute

OR

Combine Like Terms (on one side)

OR

Clear denominator

STEP 2

"Bring the Baby to the Mama"

(smaller variable)

(bigger variable)

Move variables together

STEP 3

Move the constants (#s) to the other side

(Add/Subtract)

STEP 4

Isolate the variable

(divide/multiply)

Solving with Variables on Both Sides

1) $\frac{6x+4}{2} = (x-6)2$

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

$6x+4 = 2x-12$

2) $12h-8 = 3h+46$ ✓

2) $12h-8 = 3h+46$ (mama / Baby)

$-3h \quad -3h$

$9h-8 = 46$

1) $\frac{6x+4}{2} = (x-6)2$ (mama / Baby)

$6x+4 = 2x-12$

$-2x \quad -2x$

$4x+4 = -12$

1) $\frac{6x+4}{2} = (x-6)2$

$6x+4 = 2x-12$

$-2x \quad -2x$

$4x+4 = -12$

$-4 \quad -4$

$4x = -16$

2) $12h-8 = 3h+46$

$-3h \quad -3h$

$9h-8 = 46$

$+8 \quad +8$

$9h = 54$

2) $12h-8 = 3h+46$

$-3h \quad -3h$

$9h-8 = 46$

$+8 \quad +8$

$\frac{9h}{9} = \frac{54}{9}$

$h = 6$

1) $\frac{6x+4}{2} = (x-6)2$

$6x+4 = 2x-12$

$-2x \quad -2x$

$4x+4 = -12$

$-4 \quad -4$

$\frac{4x}{4} = \frac{-16}{4}$

$x = -4$

Solving with Variables on Both Sides

$2(7+3t) = -t$

$14 + 6t = -t$ Baby

$+1t \quad +t$

$14 + 7t = 0$

$-14 \quad -14$

$\frac{7t}{7} = \frac{-14}{7}$

$t = -2$

$4 + 2x = -5 - x$

Three times the sum of a number and 4 is the same as 18 more than the same number. What is the number?

Solving with Variables on Both Sides

Why does the MAGIC NUMBER TRICK work?

- Pick a number between 1 and 10
- Double your number
- Add ten
- Divide by 2
- Subtract your original number
- What did you get?

Some Statistics...

	Quiz Average	HW Turn-In Percentage	Need to makeup Quiz
2nd	79	63%	Devin, Symone, Jackie, Christina
3rd	70	75%	
4th	74	81%	Alex, Betsy, Edgar
5th	77	59%	Allie

* No quiz re-dos: you had your notes! If you do better on Friday's test, I will raise the grade.

* There will be a prize for the class with the highest turn-in rates at the end of the six weeks. Remember: all unit 1 HW is due by the last unit 1 test!

* Please schedule a time to make up quiz with me outside of class (you have one week!)

Both pages (EVENS)

Algebra I - Unit 1: Topic 2 – Solving Multi-Step Equations with Variables on Both Sides

Practice - Solving Multi-Step Equations with Variables on Both Sides pp 100-106

Name _____ Date _____ Per _____

Solve the following problems, and then check your answer.

1. $6x + 7 = 8x - 13$

2. $2(5n - 2) = 4(n + 2)$

3. $3d - 18 = -d + 30$

4. $x + 4 = \frac{-3x - 7}{2}$

5. $-x + 3 = -x$

6. $6(y + 2) - 4 = 6y$

7. $-8 - x3 = x - 4(2 + x)$

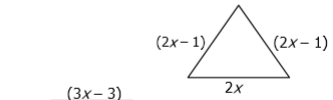
8. $4(2a - 8) = \frac{1}{7}(49a + 70)$

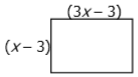
Algebra I - Unit 1: Topic 2 – Solving Multi-Step Equations with Variables on Both Sides

Define a variable, set up an equation, then solve. Write your answer in a complete sentence.

10. Two less than 2 times a number is 64 plus the same number. Find the number.

11. Claire purchased just enough fencing (in meters) to border either a rectangular or triangular garden shown below whose perimeters are the same. What is the value of x and how much fencing did she buy?





12. A moving company charges $800 plus $16 per hour. Another moving company charges $720 plus $21 per hour. How long is a job that costs the same no matter which company they use?

13. The measure of an angle is 75° more than its supplement. Find the measure of each angle.

14. The complement of an angle is 15° more than twice the measure of the angle. Find the measure of the largest angle.