Solving Multi-Step Equations

Agenda

Warm-Up

HW Check

Notes (P.12)

HW (#1- 9)

Reminders

Last Call for Calcs - Friday

Quiz Friday

Essential Question

How do I solve equations with 2 operations?

Warm-Up (Wednesday)

While you are working the warm-up have your HW out ready to check.

For #1-2 Distribute, Simplify, Combine Like Terms:

1. $6x+1-2(5x-1)$

$6x+1-10x+2$

$-4x+3$

2. $3(2x-5)-(x+4)$

$6x-15-x-4$

$5x-19$

3. Sally earns $200 per week plus a 20% commission of her sales. Write an expression for her total earnings if she sells x dollars worth of merchandise.

mult.

$20\% = .20$

$200+.20x$

Homework Check

Check your HW from last night. When you turn in your HW on Friday will be graded on completion/spot checked for accuracy. If you only copy answers, you will NOT receive credit. Each table may ask ONE question we will go over as a class.

1. b = 0
2. k = 48
3. k = 8
4. n = -51
5. z = -12
6. 7 = r
7. a. They divided instead of multiplied.
   b. 45
8. x - 13 = -5; x = 8
9. 5x = 45; x = 9
10. 12 = -3x; -4 = x
11. x/3 = -8; x = -24
12. x = 55°
13. B
14. a. 23 minutes
    b. $1.80

Algebra I - Unit 1: Topic 2 – Solving Single Step Equations using Multiplication & Division

Practice - Solving Single Step Equations **pp 76-87**

Name: _____ Date: _____ Per _____

Solve the following equations.

1. $-12 + b = -12$

2. $\frac{k}{6} = 8$

3. $k - (-13) = 21$

4. $13 + n = -38$

5. $-\frac{2}{3}z = 8$

6. $-28 = -4r$

7. For the equation $\frac{x}{3} = 15$ a student found the value of x to be 5.

   a. Explain the error.

   b. What is the correct answer?

Define a variable, write an equation, solve and check each answer.

8. Thirteen subtracted from a number is -5. Find the number.

9. Five times a number is 45.

10. 12 is the product of a number and -3.

11. The quotient of a number and 3 is negative 8.

12. $\angle A$ and $\angle B$ are supplementary. $\angle A$ has a measure of 125° and $\angle B$ has a measure of x°. Find x.

13. Which situation is best represented by $x - 32 = 8$?

   A Daniel has 32 baseball cards. Joseph has 8 less baseball cards than Daniel. How many baseball cards does Joseph have?

   B Logan withdrew $32 from her bank account. After her withdrawal, her balance was $8. How much was originally in her account?

   C Room A contains 32 desks. Room B has 8 fewer desks. How many desks are in room B?

   D Janelle bought a bag of 32 glue sticks for a project. She used 8 glue sticks. How many glue sticks does she have left?

14. In 1995, the long-distance company Sprint introduced Sprint Sense, a plan in which long-distance calls placed on weekends cost only $0.10 per minute.

   a. How long could you talk for $2.30?

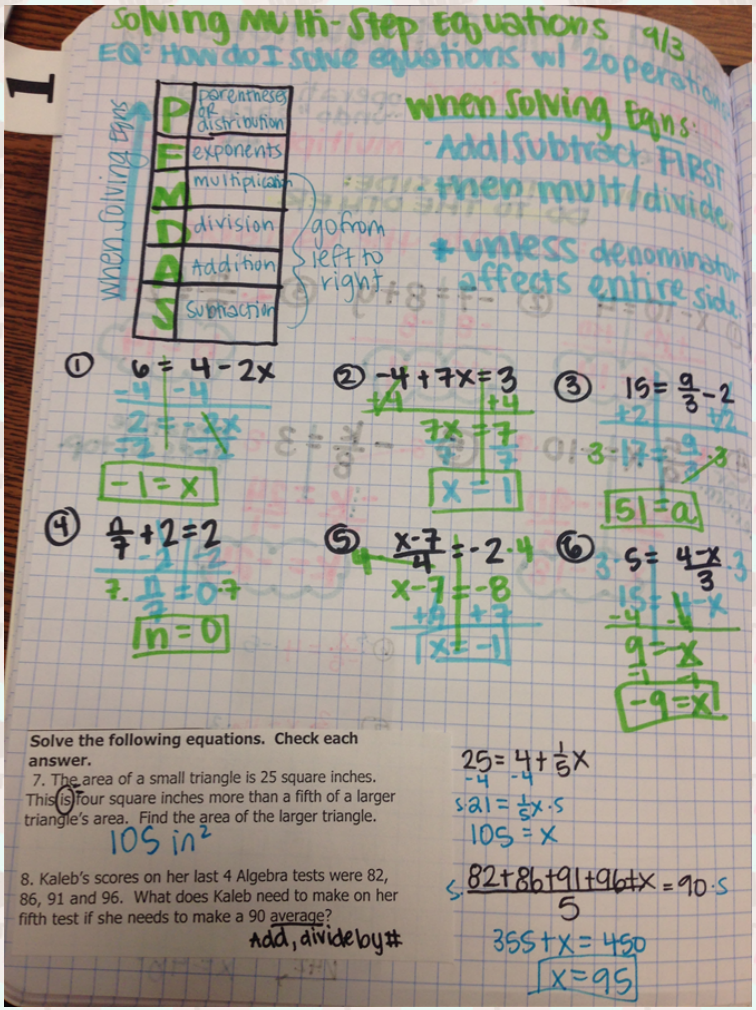
   b. What would be the cost of an 18-minute call?

9/3

Solving Multi-Step Equations

p.12

EQ: How do I solve equations with 2 operations?



Solving Multi-Step Equations p.12

Eq: How do I solve equations with 2 steps?

order of operations

P	parentheses ( ) [ ] distribution
E	Exponents x^2
MD	multiply/ Divide
AS	Add/ subtract

go from left to right

When solving eqns

* Add/subtract FIRST then multiply/ divide

* EXCEPT when denominator affects the entire side.

#5, 6

Solving Multi-Step Equations p.12

Solve the following equations. Check each answer.

1. $6 = 4 - 2x$

$-4 \quad -4$

$2 = -2x$

$\frac{2}{-2} = \frac{-2x}{-2}$

$-1 = x$

2. $-4 + 7x = 3$

$+4 \quad +4$

$\frac{7x}{7} = \frac{7}{7}$

$x = 1$

3. $15 = \frac{a}{3} - 2$

$+2 \quad +2$

$3 \cdot 17 = \frac{a}{3} \cdot 3$

$51 = a$

clear denominator

4. $\frac{n}{7} + 2 = 2$

$-2 \quad -2$

$\frac{n}{7} = 0$

$n = 0$

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

$x - 7 = -8$

$+7 \quad +7$

$x = -1$

6. $5 = \frac{4-x}{3}$

$15 = 4 - x$

$-4 \quad -4$

$\frac{11}{-1} = \frac{-1x}{-1}$

$-11 = x$

Solving Multi-Step Equations p.12

Solve the following equations. Check each answer.

7. The area of a small triangle is 25 square inches. This is four square inches more than a fifth of a larger triangle's area. Find the area of the larger triangle.

$25 = 4 + \frac{1}{5}x$

$-4 \quad -4$

$21 = \frac{1}{5}x \cdot 5$

$105 = x$

The area of the larger triangle is 105 square inches.

8. Kaleb's scores on her last 4 Algebra tests were 82, 86, 91 and 96. What does Kaleb need to make on her fifth test if she needs to make a 90 average?

Add all scores, divide by #

$\frac{82+86+91+96+x}{5} = 90$

$\frac{355+x}{5} = 90 \cdot 5$

$355 + x = 450$

$-355 \quad -355$

$x = 95$

Algebra I - Unit 1: Topic 2 – Solving Multi-Step Equations

Practice - Solving Multi-Step Equations **pp 92-95**

Name_____ Date _____ Per_____

Solve each equation. Check your answers.

1. $5x+3=23$

2. $19=3x-5$

3. $4n+6n=30$

4. $7=\frac{c}{-3}+5$

5. $4=3n-14$

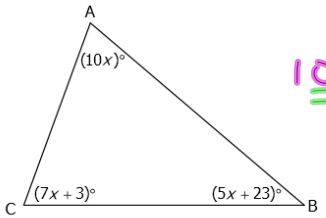
6. $\frac{3+x}{7}=-5$

#7 on notes

7. The average height of an emu is 60 inches. This 70 less than 5 times the average height of a kakapo. Write an equation and solve for the average height of a kakapo. (a bird)

Solve each equation. Check your answers.

8. Use the diagram to set up an equation to solve for *x*. Then find the measures of all three angles.



$A+B+C=180$

$10x+5x+23+7x+3=180$

$22x+26=180$

like #8 on notes

9. Steve is training for a marathon. He has run the following distances so far this week: 5 miles, 8.5 miles, 3.5 miles and 9 miles. He is going to run one more day this week. If Steve would like to average 7 miles for his training runs this week, how many miles should he run during his last run of the week?