SOLVING MULTI-STEP EQUATIONS WITH DISTRIBUTION

WARM-UP

Simplify the following expressions.

1. $2(3r+1)+3(5r-7)$

$6r+2+15r-21$

$21r-19$

2. $-3a^2+5b+7a^2-2b+3$

$4a^2+3b+3$

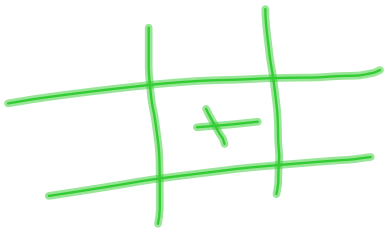
3. $15a-6ab-9a-5$

$6a-6ab-5$

OBJECTIVE: Today youwillbeabletosolve multi-stepequationsusing theDistributiveProperty.

AGENDA

- Warm-Up
- Notes
- Practice



Class Averages

2nd - 79

3rd - 71

4th - 69

5th - 81

7th - 57

Missing Quizzes

(did you turn it in??)

3rd - Colin, Melissa

4th - Tomarus

5th - Anthony J

7th - Elsy, Kaleb, JohnPaul

Missing HW 1.2

2nd - 79; 3rd - 71; 4th - 69; 5th - 81; 7th - 57

2nd	3rd	4th	5th	7th
Leo	Brandon	Tomarus	Anthony H.	Zander
Adam	Daniel	Alicia	Ace	Valentin
Brayan	Colin	George		Yareli
Stephany	Cristi	Essence		Violet
	Ramon	Faris		Elsy
	Tory	Emeka		Sumaiya
	Melissa	Issac		Jesus
		Kevin		Alexis
		Alexis		Kaleb
		Edgar		Shanya
				JohnPaul
				Kimberly
				Eduardo

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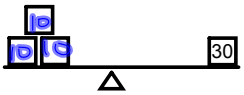
R R

ONE SOLUTION

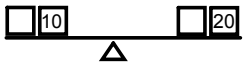
Onlyone numberworks!



X=10

NO SOLUTION

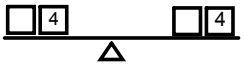
Nopossiblenumber thatcanwork



10=20 NOT TRUE ∅

INFINITE SOLUTIONS

Anynumberworks



4=4 TRUE, All Real Numbers

1. $2(4+3x)=-4$

$8+6x=-4$
$-8 \quad -8$
$6x=-12$
$\frac{6x}{6}=\frac{-12}{6}$
$x=-2$

2. $8=3+5(y-2)$

$8=3+5y-10$
$8=5y-7$
$+7 \quad +7$
$15=5y$
$\frac{15}{5}=\frac{5y}{5}$
$3=y$

3. $7=4x-(2+x)$

$7=4x-2-1x$
$7=3x-2$
$+2 \quad +2$
$9=3x$
$\frac{9}{3}=\frac{3x}{3}$
$3=x$

4. $4=2(3n+1)-6n$

$4=6n+2-6n$
$4=2$
NOT TRUE
NO SOLUTION

5. $\frac{(-4n-1)}{3}=-\frac{1}{2}$

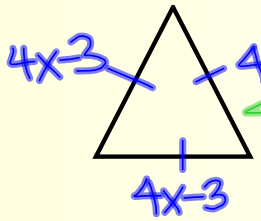
$(-4n-1)(2)=3(-1)$
$-8n-2=-3$
$+2 \quad +2$
$-8n=-1$
$\frac{-8n}{-8}=\frac{-1}{-8}$
$n=\frac{1}{8}$

6. $6x+2(1-3x)=2$

$6x+2-6x=2$
$2=2$
TRUE
ALL REAL NUMBERS

Draw a picture, then solve.

8. The perimeter of an equilateral triangle is 63 inches. If the length of each side is $(4x-3)$, find the value of x. Find the length of a side of the equilateral triangle.



$4(6)-3$

$24-3$

21in

$3(4x-3)=63$

$12x-9=63$

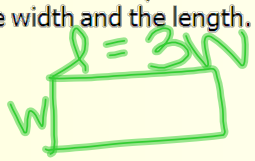
$+9 \quad +9$

$\frac{12x}{12}=\frac{72}{12}$

$x=6$

Define a variable, write an equation, then solve.

9. The length of a rectangle is three times the width. The perimeter is 96 cm. Find the width and the length.



$2l+2w=96$

$2(3w)+2w=96$

$6w+2w=96$

$8w=96$

$w=12cm$

$l=36cm$

10. $\angle A$ and $\angle B$ are supplementary. If the measure of $\angle A$ is $4(4x+5)^o$ and the measure of $\angle B$ is $2(x+8)^o$, find the measure of the largest angle.

11. Which of the equations below represents the second step of the solution process?

Step 1	$5(6x+1)+4=-39$
Step 2	
Step 3	$30x+21=-30$
Step 4	$30x=-60$
Step 5	$x=-2$

A $30x+1+4=-39$

B $5(6x+5)=-39$

C $30x+5+4=-39$

D. $30x+20+1=-39$

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

Practice - Solving Multi-Step Equations with Distribution pp 92-97

Name _____ Date _____ Per _____

Solve the following equations, then check your solution.

1. $4(x-5)=-8$

2. $3(2y+6)=12$

3. $5(3a-7)-9=46$

4. $4+6(x-3)=-38$

5. $4(3n-2)-12n=5$

6. $\frac{6x-2}{4}=-\frac{5}{2}$

7. $\frac{3}{2}=\frac{12}{3y-1}$

8. Which equation below represents the second step of the solution process?

Step 1 $6-3(5x+2)-10x=50$

Step 2 [ ]

Step 3 $-25x=50$

Step 4 $x=-2$

A $6-15x+6-10x=50$

B $6-15x+2-10x=50$

C $6-15x-6-10x=50$

D $3(5x+2)-10x=50$

Draw a picture, set up an equation, and then solve.

9. The perimeter of a square is 68 feet. If each side is $(2x-1)$ feet, find x.

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

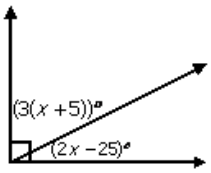
Draw a picture, define the variable, set up an equation, and then solve.

10. The length of a rectangle is 5 m greater than the width. The perimeter is 150 m. Find the width and length.

11. The width of a rectangle is 2 cm less than 7 times the length. The perimeter is 60 cm. Find the width and length.

12. Given ΔABC with $m\angle A = (2x + 30)°$, $m\angle B = (4x)°$, and $m\angle C = (2(2x + 5))°$. Solve for x and then find the measure of each angle.

13. Use the diagram to set up an equation and solve for x and then find the measure of each angle.



14. The first side of a triangle is 8 m shorter than the second side. The third side is 4 times as long as the first side. The perimeter is 26 m. Find the length of each side.