
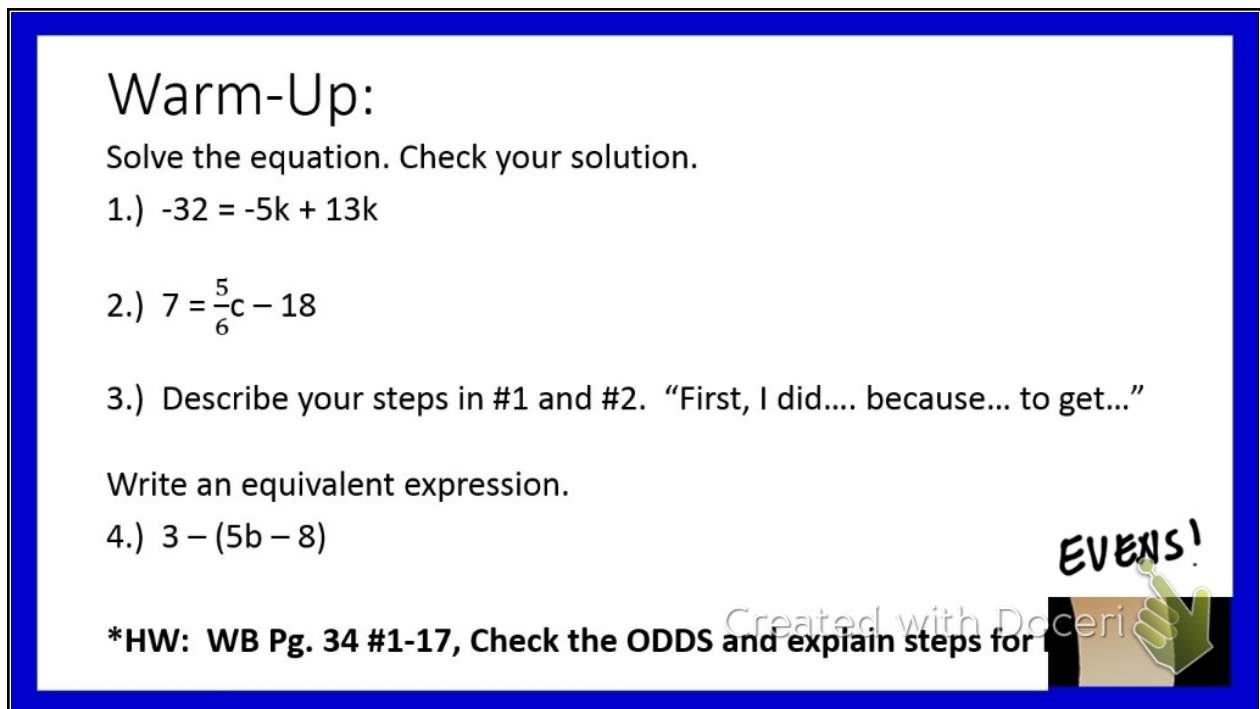


Today's Agenda 09/03

- Warm-Up
- HW Check
- Pass Back Folders
- Go over Quiz
- Notes #6 and Prac Probs
- Exit Ticket

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Warm-Up:

Solve the equation. Check your solution.


- 1.) $-32 = -5k + 13k$
- 2.) $7 = \frac{5}{6}c - 18$
- 3.) Describe your steps in #1 and #2. "First, I did.... because... to get..."

Write an equivalent expression.

- 4.) $3 - (5b - 8)$

EVEN!

*HW: WB Pg. 34 #1-17, Check the ODDS and explain steps for

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Warm-Up

Solve the equation. Check your solution.

$$1.) -32 = -5k + 13k$$

$$\begin{array}{r} -32 = 8k \\ \underline{8} \quad \underline{8} \end{array}$$

$$\boxed{-4 = k}$$

Check:

$$\begin{aligned} -32 &= 5k + 13k \\ -32 &= 5(-4) + 13(-4) \\ -32 &= +20 - 52 \\ -32 &= -32 \checkmark \end{aligned}$$

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Warm-Up

Solve the equation. Check your solution.

$$2.) 7 = \frac{5}{6}c - 18$$

$$\begin{array}{r} +18 \quad +18 \\ \hline \left(\frac{6}{5}\right) 7 = \frac{5}{6}c \left(\frac{6}{5}\right) \end{array}$$

$$\boxed{20 = c}$$

Check:

$$\begin{aligned} 7 &= \frac{5}{6}c - 18 \\ 7 &= \frac{5}{6} \left(\frac{20}{1}\right) - 18 \\ 7 &= 25 - 18 \\ 7 &= 7 \checkmark \end{aligned}$$

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Warm-Up

Solve the equation. Check your solution.

3.) Describe your steps in #1 and #2. "First, I did.... because... to get..."

#1.) First, I combined negative five k and thirteen k because they are like terms. I got negative thirty-two equals eight k . Secondly, due to the division property of equality, I divided both sides by eight because division is the inverse operation of multiplication. I got k equals negative four.

Thirdly, I checked my solution by plugging in negative four for k . I got negative thirty two equals negative five times negative four plus thirteen times negative four. Fourth, I multiplied negative five and negative four and thirteen and negative four, because according to order of operations, I do multiplication before addition. I got negative thirty-two equals twenty plus negative fifty-two. Lastly, I added twenty and negative fifty-two to get negative thirty-two. Since, negative thirty-two equals negative thirty-two, the equation checks and my solution is correct.



Warm-Up

Solve the equation. Check your solution.

3.) Describe your steps in #1 and #2. "First, I did.... because... to get..."

#2.) First, due to the addition property of equality, I added eighteen to both sides because addition is the inverse operation of subtraction. I got twenty-five equals five-sixths c . Secondly, due to the multiplication property of equality, I multiplied both sides by six-fifths, because that is the reciprocal of five-sixths. I got c equals thirty.

Thirdly, I checked my solution by plugging in thirty for c . I got seven equals five-sixths times thirty minus eighteen. Fourth, I multiplied five-sixths by thirty because according to order of operations multiplication happens before subtraction. I got seven equals twenty-five minus eighteen. Lastly, I subtracted eighteen from twenty-five. Since seven equals seven and my equation checks, my solution is correct.



Warm-Up

Write an equivalent expression.

4.) $3 - (5b - 8)$

$$\begin{array}{r} 3 - 5b + 8 \\ \hline 11 - 5b \\ - 5b + 11 \end{array}$$

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HW Check

- Check HW in a DIFFERENT color than you completed it in...
- On the problems you missed, make notes to yourself...
- Put the number right on the top...

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Pass Back Folders

- Your folders have your names on them
- Take out your work and put it in your math binder
- Pass up the folders

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Chapter 3 Quiz

- Go over quiz
- If you missed more than 3, see me during Tutorial (Rm 103)

- Chapter 3 Test is tentatively next Tuesday.... Remember there is Tutorial, Monday's SRJC Tutor in Rm 107, and Me on Mondays and Thursdays...

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Notes #6 Solving Multi-Step Equations

Objective: To solve multi-step equations by using inverse operations to isolate the variable, to explain each step in solving the equation, and to check our solutions.

Assignment: CW: Pg. 150 #1-2, 9-11, 15-17, 19-21, 25-26

Notes:

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Notes #6 Solving Multi-Step Equations

Solve an equation by combining like terms.

Ex 1.) $8x - 3x - 10 = 20$

Check:

$$\begin{array}{r} 8x - 10 = 20 \\ +10 \quad +10 \\ \hline 5x = 30 \\ \hline 5 \quad 5 \\ \hline \boxed{x = 6} \end{array}$$

$$\begin{array}{r} 8x - 3x - 10 = 20 \\ 8(6) - 3(6) - 10 = 20 \\ 48 - 18 - 10 = 20 \\ 30 - 10 = 20 \\ 20 = 20 \checkmark \end{array}$$

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Notes #6 Solving Multi-Step Equations

Solve an equation by combining like terms.

Ex 2.) $9d - 2d + 4 = 32$

Check:

$$\begin{array}{r} 9d - 2d + 4 = 32 \\ \underline{-2d} \quad \underline{-4} \\ 7d = 28 \\ \underline{7} \quad \underline{7} \\ d = 4 \end{array}$$

$$\begin{array}{l} 9d - 2d + 4 = 32 \\ 9(4) - 2(4) + 4 = 32 \\ 36 - 8 + 4 = 32 \\ 28 + 4 = 32 \\ 32 = 32 \checkmark \end{array}$$

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Notes #6 Solving Multi-Step Equations

Solve an equation by combining like terms.

You Try 1.) $9x + x - 7 = 13$

Check:

$$\begin{array}{r} 9x + x - 7 = 13 \\ \underline{+7} \quad \underline{+7} \\ 10x = 20 \\ \underline{10} \quad \underline{10} \\ x = 2 \end{array}$$

$$\begin{array}{l} 9x + x - 7 = 13 \\ 9(2) + 2 - 7 = 13 \\ 18 + 2 - 7 = 13 \\ 20 - 7 = 13 \\ 13 = 13 \checkmark \end{array}$$

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Notes #6 Solving Multi-Step Equations

Solve an equation by combining like terms.

You Try 2.) $5a + 3 - 3a = -7$

$$\begin{aligned} 5a - 3a + 3 &= -7 \\ 2a + 3 &= -7 \\ \underline{-3} \quad \underline{-3} & \\ 2a &= -10 \\ \underline{2} \quad \underline{2} & \\ a &= -5 \end{aligned}$$

Check:

$$\begin{aligned} 5a + 3 - 3a &= -7 \\ 5(-5) + 3 - 3(-5) &= -7 \\ -25 + 3 + 15 &= -7 \\ -22 + 15 &= -7 \\ -7 &= -7 \checkmark \end{aligned}$$

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Notes #6 Solving Multi-Step Equations

Solve the equation using the distributive property.

Ex 1.) $7x + 2(x + 6) = 39$

Check:

$$\begin{aligned} 7x + 2x + 12 &= 39 \\ 9x + 12 &= 39 \\ \underline{-12} \quad \underline{-12} & \\ 9x &= 27 \\ \underline{9} \quad \underline{9} & \\ x &= 3 \end{aligned}$$

$$\begin{aligned} 7x + 2(x + 6) &= 39 \\ 7(3) + 2(3 + 6) &= 39 \\ 7(3) + 2(9) &= 39 \\ 21 + 18 &= 39 \\ 39 &= 39 \checkmark \end{aligned}$$

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Notes #6 Solving Multi-Step Equations

Solve the equation using the distribution property.

Ex 2.) $2w + 3(w + 4) = 27$

Check:

$$2w + 3w + 12 = 27$$

$$5w + 12 = 27$$

$$\begin{array}{r} -12 \quad -12 \\ \hline 5w = 15 \end{array}$$

$$\frac{5w}{5} = \frac{15}{5}$$

$$w = 3$$

$$2w + 3(w + 4) = 27$$

$$2(3) + 3(3 + 4) = 27$$

$$2(3) + 3(7) = 27$$

$$6 + 21 = 27$$

$$27 = 27 \checkmark$$

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Notes #6 Solving Multi-Step Equations

Solve the equation using the distribution property.

You Try 1.) $6t - 2(t - 5) = 46$

Check:

$$6t - 2t + 10 = 46$$

$$4t + 10 = 46$$

$$\begin{array}{r} -10 \quad -10 \\ \hline 4t = 36 \end{array}$$

$$\frac{4t}{4} = \frac{36}{4}$$

$$t = 9$$

$$6t - 2(t - 5) = 46$$

$$6(9) - 2(9 - 5) = 46$$

$$6(9) - 2(4) = 46$$

$$54 - 8 = 46$$

$$46 = 46 \checkmark$$

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Notes #6 Solving Multi-Step Equations

Solve the equation using the distribution property.

You Try 2.) $3 + 4(z + 5) = 31$

$$\begin{array}{r}
 3 + 4z + 20 = 31 \\
 \underline{-20} \\
 23 + 4z = 31 \\
 \underline{-23} \\
 4z = 8 \\
 \frac{4z}{4} = \frac{8}{4} \\
 \boxed{z = 2}
 \end{array}$$

Check:

$$\begin{array}{l}
 3 + 4(z + 5) = 31 \\
 3 + 4(2 + 5) = 31 \\
 3 + 4(7) = 31 \\
 3 + 28 = 31 \\
 31 = 31 \checkmark
 \end{array}$$

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Notes #6 Solving Multi-Step Equations

Multiply by a reciprocal to solve the equation.

Ex 1.)

$$\begin{array}{r}
 \frac{2}{3}(3x + 5) = -24 \\
 \frac{2}{3} \cdot \frac{3}{2} (3x + 5) = \frac{2}{3} \cdot (-24) \\
 3x + 5 = -16 \\
 \underline{-5} \\
 3x = -21 \\
 \frac{3x}{3} = \frac{-21}{3} \\
 \boxed{x = -7}
 \end{array}$$

Check:

$$\begin{array}{l}
 \frac{2}{3}(3x + 5) = -24 \\
 \frac{2}{3}(3(-7) + 5) = -24 \\
 \frac{2}{3}(-21 + 5) = -24 \\
 \frac{2}{3}(-16) = -24 \\
 1 \cdot (-24) = -24 \checkmark
 \end{array}$$

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Notes #6 Solving Multi-Step Equations

Multiply by a reciprocal to solve the equation.

Ex 2.) $-\frac{4}{5}(4a - 1) = 28$ Check:

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Notes #6 Solving Multi-Step Equations

Multiply by a reciprocal to solve the equation.

You Try 1. $\left(\frac{4}{3}\right) \frac{3}{4}(z - 6) = 12$ Check:

$$\begin{array}{r} z - 6 = 16 \\ +6 \quad +6 \\ \hline z = 22 \end{array}$$

$$\begin{array}{l} \frac{3}{4}(z - 6) = 12 \\ \frac{3}{4}(22 - 6) = 12 \\ \frac{3}{4}(16) = 12 \\ 4 \cdot 12 = 12 \checkmark \end{array}$$

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Notes #6 Solving Multi-Step Equations

Multiply by a reciprocal to solve the equation.

You Try 2.) $\frac{2}{3}(3r + 4) = 10$ Check:

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Prac Probs Pg. 150 #1-2, 9-11, 15-17, 19-21, 25-26

1. **VOCABULARY** What is the reciprocal of the fraction in the equation $\frac{3}{5}(2x + 8) = 18$?

2. **★ WRITING** Describe the steps you would use to solve the equation $3(4y - 7) = 6$.

9. $-2 = 3y - 18 - 5y$

10. $23 = -4m + 2 + m$

11. $35 = -5 + 2x - 7x$

15. $5h + 2(11 - h) = -5$

16. $27 = 3c - 3(6 - 2c)$

17. $-3 = 12y - 5(2y - 7)$

19. $\frac{1}{3}(d + 3) = 5$

20. $\frac{3}{2}(x - 5) = -6$

21. $\frac{4}{3}(7 - n) = 12$

ERROR ANALYSIS Describe and correct the error in solving the equation.

25.

$$5x - 3(x - 6) = 2$$

$$5x - 3x - 18 = 2$$

$$2x - 18 = 2$$

$$2x = 20$$

$$x = 10$$

26.

$$\frac{1}{2}(2x - 10) = 4$$

$$2x - 10 = 2$$

$$2x = 12$$

$$x = 6$$

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Solve the equation. THEN explain your steps.

1.) $12v + 14 + 10v = 80$

2.) $14 + 2(4g - 3) = 40$

3.) $4 = \frac{2}{9}(4y - 2)$

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Exit Ticket 09/03

Solve the equation. THEN explain your steps.

1.) $12v + 14 + 10v = 80$

2.) $14 + 2(4g - 3) = 40$

3.) $4 = \frac{2}{9}(4y - 2)$

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