

**October 9th**Due Today **Levels!****Unit 2: Solving Equations****Lesson 2.6 Solving Fraction Equations**

Get Ready: Solve the following equations in your notes:

1)  $-8 - 2x = -20$

2)  $-42 = 3(-3 + n)$

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

4)  $-9 + n = 7n + 3$

5)  $\frac{5n + 5}{3} = \frac{n}{4}$

6)  $-16 - 6n = 4(n + 2) - 4$

**Answers:**

1)  $\{6\}$

2)  $\{-11\}$

3)  $\left\{\frac{12}{7}\right\}$

4)  $\{-2\}$

5)  $\left\{-\frac{20}{17}\right\}$

6)  $\{-2\}$

**LET'S SOLVE THESE:**

$$1) \cancel{7r} + 6 = 4 + \cancel{7r}$$

$$6 = 4$$

No Solution

$$2) 2b + 13 = 7 + 2(b + 3)$$

$$2b + 13 = 7 + 2b + 6$$

$$\cancel{2b} + \cancel{13} = \cancel{2b} + \cancel{13}$$

$$\cancel{2b} = \cancel{2b}$$

$$0 = 0$$

infinite Solutions

or

All Real #s

**NO SOLUTION:  $a = b$** **INFINITE SOLUTIONS:  $c = c$**

## EQUATIONS WITH FRACTIONS

$$\frac{2}{3}x = \frac{2x}{3}$$

$$\frac{4}{-5} = \frac{-4}{5}$$

$$\frac{1}{3}$$



$$- \frac{2}{3} = \frac{-2}{3}$$

Equations with Fractions Examples:

$$\frac{2}{3}n + 3 = -\frac{1}{4} - \frac{3}{2}n$$

Cross Multiplication

$$\frac{2}{3}n + 3 = -\frac{1}{4} - \frac{3}{2}n$$

$$\frac{2n}{3} + 3 \cdot \frac{4}{4} = -\frac{1}{4} - \frac{3n}{2} \cdot \frac{2}{2}$$

$$\frac{2n}{3} + \frac{9}{3} = -\frac{1}{4} - \frac{6n}{4}$$

$$\frac{2n+9}{3} = \frac{-1-6n}{4}$$

$$4(2n+9) = 3(-1-6n)$$

$$\begin{array}{r} 8n + 36 = -3 - 18n \\ +18n \end{array}$$

$$\begin{array}{r} 26n + 36 = -3 \\ -36 \quad -36 \end{array}$$

$$\begin{array}{r} 26n = -39 \\ 26 \quad 26 \end{array}$$

$$n = \frac{-39}{26} = \left( \frac{-3}{2} \right)$$

Common Denominator

$$\frac{4}{4} \cdot \frac{2}{3}n + 3 \cdot \frac{12}{12} = -\frac{1}{4} \cdot \frac{3}{3} - \frac{3}{2}n \cdot \frac{6}{6}$$

$$\left( \frac{8n}{12} + \frac{36}{12} = \frac{-3}{12} - \frac{18n}{12} \right) \cdot 12$$

$$\begin{array}{r} 8n + 36 = -3 - 18n \\ +18n \end{array}$$

$$\begin{array}{r} 26n + 36 = -3 \\ -36 \quad -36 \end{array}$$

$$\begin{array}{r} 26n = -39 \\ 26 \quad 26 \end{array}$$

$$n = \frac{-39}{26} = \frac{-3}{2}$$

**Rules of the Game:**

- Each team will then choose a problem to work worth 1,2 or 3 spaces. The problem should be completed on loose leaf paper!

-When they are ready to have their problem checked they can show the teacher. If it is right, the team can move forward that number of spaces and get another problem card. If it is wrong they have to move back that number of spaces and keep working on the problem until they get it right! If they get it right, they can move forward!

- If a team lands on an acorn space (🌰) - EXACTLY ON THE SPACE! then they can choose to do a challenge problem. If they get it right they can cross the rainbow bridge. If they get it wrong they may have a second try, if it is still wrong the team must move BACK 2 spaces and choose another problem card. They cannot try that acorn space again.

**OH Nuts!**

## Unit 2: Solving Equations

Lesson #	Name	Recap	HW
2.1	Modeling with Equations and Expressions	Went over gateway, worked in groups on the modeling worksheet	1 or 2 levels of the GW and finish worksheet
2.2	Combining Like Terms		2 or 3 levels of the gateway + Properties Notes! Finish Dubois! <b>Quiz!</b>
2.3	Quiz + Literal Equations		1 levels of the gateway Lit. Eq Sheet Test Corrections!
2.5	Porportions - when can we cross multiply?		1 level of the gateway Test Corrections!
2.6	Solving Fraction Equations		Try to FINISH the gateway!  Test Corrections!