

MINI LESSON #3- Solving One and Two-Step Equations

Define Expression									
Define Equation									
What is an inverse operation ?									
Describe the difference between an expression and an equation									
What is the solution of an equation ?									
How can you check a solution for an equation to make sure it is correct ?									
Solving One-Step Equations	<ul style="list-style-type: none"> • The thing to remember is that equations must <u>stay balanced!</u> • <u>If you do something to one side you must do it to the other side to keep things balanced!</u> • The GOAL in solving equations is to <u>isolate the variable.</u> • SOLVE and CHECK the following Equations <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 50%; padding: 5px; text-align: center;">1. $n + (-3) = -7$</td> <td style="width: 50%; padding: 5px; text-align: center;">2. $d - 15 = -4$</td> </tr> <tr> <td style="padding: 5px; text-align: center;">3. $k - 13 = -16$</td> <td style="padding: 5px; text-align: center;">4. $-4 + y = -6$</td> </tr> <tr> <td style="padding: 5px; text-align: center;">5. $h - (-12) = 14$</td> <td style="padding: 5px; text-align: center;">6. $-75 = 3w$</td> </tr> <tr> <td style="padding: 5px; text-align: center;">7. $\frac{-f}{6} = 8$</td> <td style="padding: 5px; text-align: center;">8. $\frac{g}{-4} = 9$</td> </tr> </table>	1. $n + (-3) = -7$	2. $d - 15 = -4$	3. $k - 13 = -16$	4. $-4 + y = -6$	5. $h - (-12) = 14$	6. $-75 = 3w$	7. $\frac{-f}{6} = 8$	8. $\frac{g}{-4} = 9$
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Solving
**Two-Step
Equations**

- The thing to remember is that equations must **stay balanced!** **If you do something to one side you must do it to the other side to keep things balanced!**
- The **GOAL** in solving equations is to **isolate the variable.**
- **Steps for Solving 2-Step Equations**

1. Find the variable (circle the term with its sign)
2. Get rid of the **Constant** (numbers not with the variable) by doing the **inverse operation.**
(addition or subtraction)
3. Get rid of the **Coefficient** (number with the variable) by doing the **inverse operation**
(multiplication or division)
4. Check your solution in the original equation

SOLVE and CHECK the following Equations

1. $4m - 9 = -17$	2. $-5m + 2 = 27$
3. $\frac{x}{6} - 17 = -18$	4. $8x - (-7) = -17$
5. $\frac{x}{-3} + 3 = -12$	6. $25 + 5x = 80$
7. $10 - 3x = 31$	8. $12 + \frac{x}{4} = -36$
9. $-15 + \frac{x}{3} = 45$	10. $17 - \frac{x}{6} = 53$

WORD PROBLEMS

- Write an equation for each word problem.
- Solve the equation and answer the word problem.

1. The product of -13 and x is 39.

2. A truck driver drove 478 miles on Tuesday. That was 132 miles farther than she drove on Monday. Let d represent the distance she drove on Monday. How far did she drive on Monday?

3. You want to save \$900 to go to Puerto Rico for spring break. You have been saving \$45 each week and now have \$180. Find out how many more weeks w it will take to have \$900.

4. A waitress earned \$94 for 6 hours of work. The total included \$46 in tips. What was her hourly wage?