

## WEBQUEST – Solving Equations

### Introduction –

As Algebra I students progress through the curriculum, their knowledge of solving multi-step equations must become fluent. This skill is key to solving real-world problems, graphing equations, and successfully completing successive math courses. In today's webquest, you will practice balancing equations and solving two-step equations and equations with variables on both sides.

### Task –

Today, you will work through the webquest with a partner. Together, you will visit several websites, practice balancing equations online, and solve equations by hand. You will use problems online to work at your own pace and check your answers. By the end of the period, you will have successfully solved 5 two-step and 5 equations with variables on both sides. Before moving on to the next step, you and your partner must initial that all work is complete and correct.

### Process –

To successfully complete this webquest, you will complete the following steps.

1. Practice balancing equations by visiting:

[Balancing Equations](#)

Once you have balanced an equation successfully, click “New Problem” to try the next one.

After you have successfully balanced five equations, check it off on your outline and move on to the next step. Make sure you have your initials and your partner's initials before moving on.

2. Begin solving two-step equations by reading about the process on how to solve. Visit the following page, read about how to solve two-step equations. Then, complete the two problems at the bottom of the page. Check off and initial your outline once completed.

[How to Solve Two-Step Equations](#)

3. Now, practice solving two-step equations by visiting the following page. Please successfully solve four problems from this site on your outline. Use the site to check your answer to each problem before moving on to the next one.

[Practice Solving Two-Step Equations](#)

4. Begin solving equations with variables on both sides by reading about the process on how to solve. Visit the following page, read about how to solve equations with variables on both sides. Fill out the steps on your outline.

[How to Solve Equations with Variables on Both Sides](#)

5. Now, practice solving equations with variables on both sides by visiting the following page. Please successfully solve four problems from this site on your outline. Use the site to check your answer to each problem before moving on to the next one.

[Practice Solving Equations with Variables on Both Sides](#)

6. If you have successfully completed your outline early, visit the following page and read through example **iii**. If time permits, try the third example at the bottom of the page. We will be solving problems similar to these in our next lesson.

[How to Solve Multi-Step Equations](#)

7. Now that you have practiced solving two-step equations and equations with variables on both sides, you will complete an exit ticket. Please complete the following problems on your outline.

[Exit Ticket – Problems 1, 2, and 9](#)

[#10 – Challenge Problem](#)

**Resources** –

1. Balancing Equations Scale –  
[http://nlvm.usu.edu/en/nav/frames\\_asid\\_324\\_g\\_3\\_t\\_2.html?open=instructions](http://nlvm.usu.edu/en/nav/frames_asid_324_g_3_t_2.html?open=instructions)
2. Steps to Solve Two-Step Equations –  
[http://www.learningwave.com/lwonline/algebra\\_section1/twostep.html](http://www.learningwave.com/lwonline/algebra_section1/twostep.html)

3. Two-Step Equation Practice Problems –  
<http://www.mathguide.com/cgi-bin/quizmasters/EquationsTwo.cgi>
4. Steps to Solve Equations with Variables on Both Sides  
<http://www.mathguide.com/lessons/Equations.html#3Type2>
5. Equations with Variables on Both Sides Practice Problems  
<http://www.mathguide.com/cgi-bin/quizmasters/Equations3Type2.cgi>
6. Multi-Step Equation Examples and Practice Problems  
[http://www.algebra-lab.org/lessons/lesson.aspx?file=algebra\\_onevariablemulti\\_step.xml](http://www.algebra-lab.org/lessons/lesson.aspx?file=algebra_onevariablemulti_step.xml)
7. Exit Ticket Problems  
<http://www.businessbookmall.com/mathpp27.htm>

**Evaluation** –

CATEGORY	4	3	2	1
<b>Process of Solving the Linear Equation</b>	Typically, uses an efficient and effective strategy to solve the problem(s).	Typically, uses an effective strategy to solve the problem(s).	Sometimes uses an effective strategy to solve problems, but does not do it consistently.	Rarely uses an effective strategy to solve problems.
<b>Mathematical Errors</b>	90-100% of the steps and solutions have no mathematical errors.	Almost all (85-89%) of the steps and solutions have no mathematical errors.	Most (75-84%) of the steps and solutions have no mathematical errors.	More than 75% of the steps and solutions have mathematical errors.

**Conclusion** –

Students will complete an exit ticket and we will go over as a class before the end of the period so students can evaluate their own progress. These will be turned in so teacher can see how students are progressing with the topic.