An Introduction to Solving Literal Equations

by – Tammy L. Jones

Activity overview

Students will look at literal equations and investigate how to solve them for different variables.

Concepts

- *Literal Equations*
- *Solving Equation, including Multistep equations*

Teacher preparation

Download and read the worksheet and Nspire documents before giving it to your students. Students should have some basic knowledge of how to solve equations.

Classroom management tips

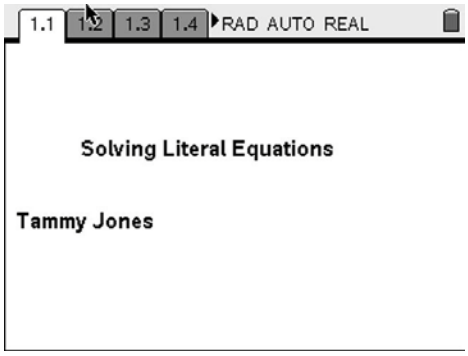
Let students do as much as possible on their own, but be available to answer individual questions that students might have. Problem 2 is an activity increases the cognitive demand. The students are having to research and find or create a literal equation.

TI-Nspire Applications

LiteralEquations.tns

Step-by-step directions

Open the LiteralEquations document on the Nspire handheld.



Solving Literal Equations

By: Tammy L. Jones
Grade level: 7-12
Subject: mathematics
Literal Equations
Time required: 45 to 90 minutes
Materials: LiteralEquations.tns

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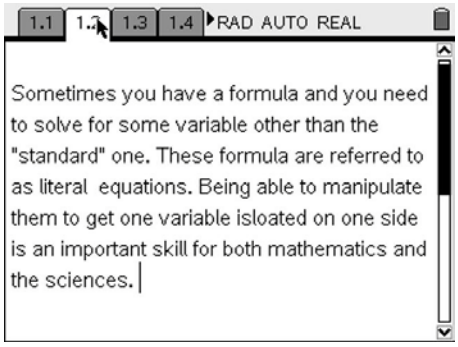
Literal equations are a vital part of not only mathematics but science as well. Take time here to set up a reason to need to use literal equations, sometimes called formulas. Explain that many times it is easier to have a formula solved for the unknown so the values can simply be "plugged in" to solve for the desired value.



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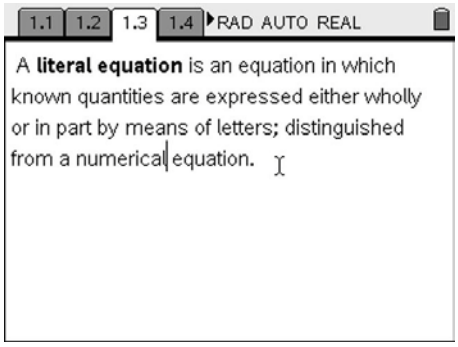
Students will copy this definition on their worksheet. This would be a good term to add to a Word Wall. Discuss with students what they think these equations will look like BEFORE they go to page 4.



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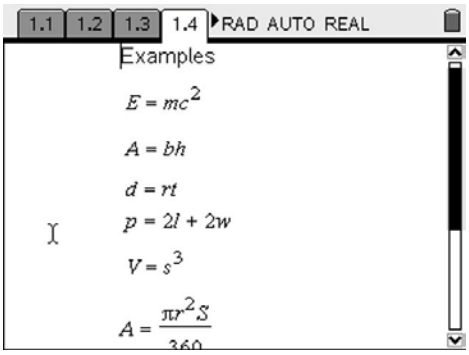
The students will be instructed to copy each of these formulas down. They will also be asked to tell what the formula is used for and to identify each of the variables.



Formula	**Variable(s)**	**What each variable stands for**
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

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_____ _____ _____

_____ _____ _____

_____ _____ _____

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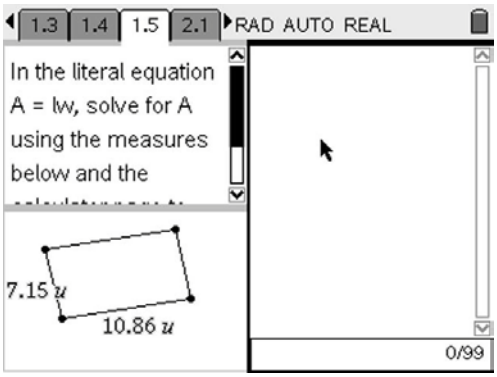
Here the students will use the measures of the given rectangle to determine the area. They will check their answer by using the measuring tool and finding the area of the rectangle. They have a calculator page on the right of the screen on which they can do their calculations.



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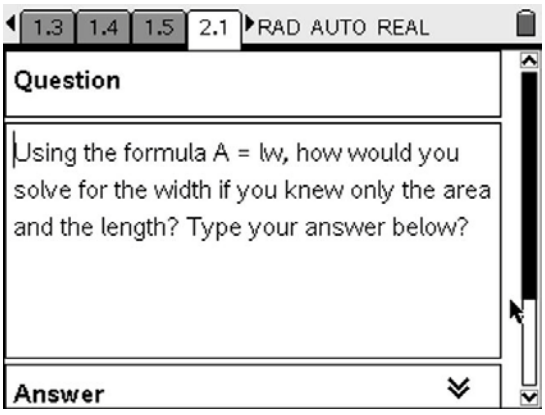
Communication is very important as students learn about mathematics. Students need to be able to correctly and effectively communicate about what they are doing. It is very important that the teacher checks for sloppy language that could lead to a student's misconception about the ideas presented.



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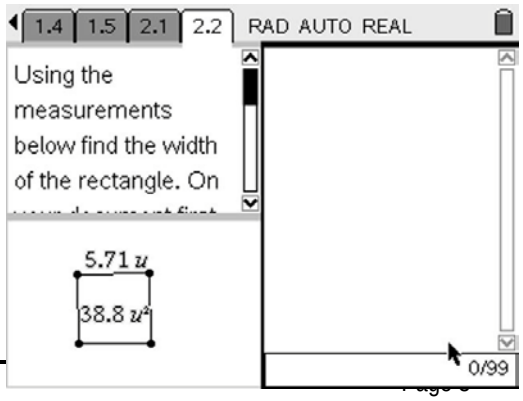
Students will be instructed to write their new formula, plug in the appropriate values, and then solve for the unknown. It is important that the teacher have the students follow through with this. This is a very important skill they will use in their science classes.



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Pages 2.2 – 2.8 will have the student generate examples of equations that require specific operations to solve for the unknown. These can be done in cooperative settings or even jig sawed by the various groups. Monitor this closely.

Page 2.9 will have the students work a short assessment at the end of their document.

Assessment and evaluation

- The last part of the document can be used as an assessment if desired.

Activity extensions

- Give students other formulas with which to work.
