

Module G – How to Show Your Work

Reminder: You must show all five steps whenever you introduce a variable in order to solve a word problem. If the problem assigns a variable or already has a variable in it, you do not need to show all five steps! ☺

For your convenience, here are the five steps:

1. State what you are finding.
2. Define your variable(s) – anything that is unknown should be assigned a variable or variable expression. Try to limit your variables to one (or two at the most).
3. Write an equation to model the situation (remember any unknown involved should have a definition in the previous step!).
4. Solve the equation.
5. State your answer in a *complete* sentence. Look back and step one and make sure you've answered what you were looking for!

Now, for some particulars for each section:

6.1, 6.2: We're back to fractions (and decimals)! ☺ There is nothing new in showing your work here, but make sure you write the directions (even though they are easy) and watch for key vocabulary words (like *ratio* and *denominate numbers*).

6.3, 6.4: There is not a set way to write your proportions (there are equivalent proportions for each one you can write). Make sure you think about the units (or locations) involved in the proportion you are setting up; be consistent with placing the same unit in the same location of the proportion. You may want to write them down on the side if you're not sure.

Examples:

6.3 # 82 if an 8-ft. two-by-four costs 96¢, what should a 12-ft. two-by-four cost?

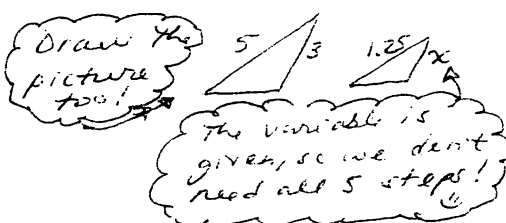
1. Cost of 12-ft. two-by-four
2. $x = \text{cost of 12-ft. two-by-four}$
3. $\frac{8}{96} = \frac{12}{x}$
 - ← length (ft.)
 - ← cost (cents)
4. $8x = 12(96)$
 $\frac{8x}{8} = \frac{1152}{8}$
 $x = 144$
5. A 12-ft. two-by-four would cost 144¢

WE DON'T HAVE A VARIABLE IN THE PROBLEM, SO WE NEED ALL 5 STEPS!

Keep units aligned ☺

watch the units!

6.4 (similar to # 1-10) The triangles are similar. Find the missing side.



$$\frac{5}{3} = \frac{1.25}{x}$$

$$5x = 3(1.25)$$

$$\frac{5x}{5} = \frac{3.75}{5}$$

$x = .75$

This is one choice. Just make sure you keep the positions in same spots in the proportion.

Box answer!