



Learning Project 6 Fractions, Proportions and Percents

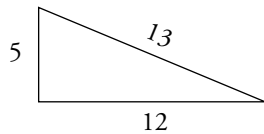
Inquiry Activity 6-2: Setting up and Solving Another Proportion

(Note: The italicized portion is directed to the learners.)

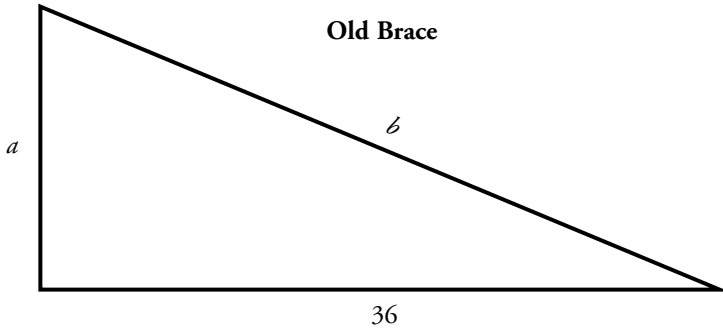
**1. Identifying the Problem (Item # 18, PA) Calculator not allowed.
Problem must be answered on answer grid.**

Read the question carefully, as you would if taking the actual test.

18. A carpenter is making a larger triangular brace similar to the one shown below.



Old Brace



New Brace

**Calculator
NOT Allowed**



The base of the new brace is 36 inches. What is the length, in inches, of side b if the triangles are similar?

PLEASE DO NOT WRITE IN THIS TEST BOOKLET.

Mark your answer in the circles in the grid on your answer sheet.

Here are some problem clarification questions you may want to consider when reading test questions.

What words and/or symbols might be important to understand to answer this problem and what are they telling you?

Cannot know what words the learner will choose. The following represents a possible, though non-exclusive, list:
Triangle, triangles being similar, length, inches, side b,

What words and/or symbols are unfamiliar and what do you think they mean?

Here is a non-exclusive list of some of the words that may present problems with some learners: brace, triangular brace, base.

2. Becoming Familiar with the Problem

Ask yourself questions like these about the problem, taking note of the ones that were especially helpful so that you can remember to use them when you take the test.

Reread the question. What is the question really asking?

Which information in the problem is relevant to what you need to find?

What do I know about this?

Any experience with building or fixing up might help understand the context.

What does the problem really look like? — Sketch a picture of what's going on in the problem.

3. Planning and Performing Tasks

Try to answer the test question any way you can, even if you have to guess, but try to be aware of the reasoning and operations that you are using. The following directions and questions can be helpful.

Use your experience with similar problems to make sense of this one.

What is the problem asking you to do in terms of mathematics...bringing together, separating, or comparing?

Comparing

In your own words, determine what to look for in the facts of this problem.

Restate the question (or situation) using fewer words.

Estimate an answer — tolerate some fuzziness, but be aware of the steps you took to make the estimate, even if you guessed!

Eliminate unreasonable multiple-choice answers.

Find the answer.

Compare your answer to the estimate.

Is the answer reasonable?

Be ready to defend your answer (whether you worked individually or with someone else) and the way you found it.

4. Sharing with Others

Telling other people what you know helps you to understand the material better. So take this opportunity not only to share your knowledge, but also to learn it more completely.

Small groups: *Compare your answers to others in the group and explain why and how you found it and why you think it is correct.*

Agree on the correct answer and the step-by-step process used to find that answer.

Do some research in the math texts that are available and look up unfamiliar vocabulary if necessary so that everyone can agree.

Write the procedure that you used as a sequence of steps, that is, Step 1, Step 2, etc.

Write the procedure as a mathematical expression and compare it to the steps you used above. Explain similarities and differences.

Whole Class: *Report to the class your determinations of the steps you decided on to answer this question, the estimation process used, as well as the mathematical expression that summarizes them.*

At the completion of all the group presentations, the class should discuss all of the different ways to solve the problem, or if everyone used the same method, what other methods could be used.



5. Reflecting, Extending and Evaluating

Reflecting: *Think about what you learned.* (group activity or instructor led)

Here are some questions to start you thinking about the experience you just had. Thinking about what you have learned and experienced is part of the learning process. When the focus is only on the answer, you don't get much time to think about what was learned.

What reading and thinking skills did you use in this item?

How will reading and thinking skills help you during the test? In future learning?

If you have had previous experience with building, how did that experience help you with this problem?

Extending: *Extend what you learned to new situations.*

In extending, you are being asked to transfer the information presented in the Practice Test question to other information or situations you already know and maybe make new connections to other information.

How did you use the information you learned from Activity 6-1 to solve this problem? Explain your thinking and your steps.

How were the problems different?

If you have not already done so, set up the problem this Inquiry Activity as a proportion formula.

How could you solve this problem without setting up the proportion formula?

What connections did you find between this problems and other Learning Projects or math that you have studied? Explain.

How would you use the proportions formula to change a recipe to serve more people? How would you change a recipe using your method?

In what other situations than recipes might you use proportions around the house?

Evaluating: *Assess what you learned and how you learned it.*

In this last step, you get a chance to review both the content of what you learned and the methods used to learn. There are no right or wrong answers to these questions; it is your chance to look more closely at your learning style and the opportunity to state how you benefited or didn't benefit from the content and/or the methods to help you pass the GED test.

Does knowing the formal proportion procedure help you to solve proportion problems? Explain.

What will you do to make sure that you have placed the numbers in the proportion problem in the proper place in the proportion formula?