

Solving Math Problems

Solving problems is the most important part of math-based courses. Spend most of your study time working or studying problems.

1. **Read through the problem.**
2. **Read through the problem again** to find out what the problem is asking for (the unknown). Be able to state this in your own words.
3. If appropriate, **draw a diagram and label it.**
4. **Read** each phrase of the problem and **write down** (symbolically or otherwise) all information that is given.
5. **Devise a tentative plan** to solve the problem using some of the tactics shown to the right.
6. Once you have a plan, **carry it out.** If it doesn't work, try another plan.
7. **Check** your solution.
8. **Check** to see if the answer is in the proper form.
9. **Insert** your answer back into the problem.
10. Make sure your answer is "**reasonable.**"

Problem Solving Tactics

- ✎ Form relationships among all facts given. (Write an equation that includes your unknown).
 - ✎ Think of every formula or definition that might be relevant to the problem.
 - ✎ Work backwards; ask yourself, "What do I need to know in order to get the answer?"
 - ✎ d. Relate the problem to a similar example from your textbook or notes.
 - ✎ Solve a simpler case of the problem using extremely large or small numbers; then follow your example as if it is an example from the text.
 - ✎ Break the problem into simpler problems. Work part of the problem and see if it relates to the whole.
6. g. Guess an answer and then try to check it to see if it is correct. The method you use to check your answer may suggest a possible plan.
 7. h. If you are making no progress, take a break and return to the problem later.