

Problem Solving Strategies

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If you are having some trouble solving a maths problem, these ideas might get you going.

Make Sure You Understand the Problem

This may seem obvious but it is easy to jump straight into solving a problem before you really understand it. So, sure, have a bit of a play around with it at first, if you like, but then read the problem carefully two or three times if necessary. If you are still not sure about the problem, try

- talking it over with someone else; or
- writing out the problem *in your own words* and having someone else check that what you have written is the same as the original problem.

Another way of getting going with problem solving is **making a start**. Don't be scared of having a go! Draw some sketches, try some possible answers, talk the problem over with a friend.

Making Mistakes!

It's true: good problem solvers make plenty of mistakes. You may have heard the expression: *learn from your mistakes*. Well, this statement is true. Try things out, make mistakes, then try some other way of attacking the problem.

Do Not Get Frustrated

I know that is easy to say, but problem solving is all about coming up against something you don't quite understand. *That is why it is a problem*. So accept that fact and take it easy; if you worry about it too much, you might lose concentration. So stay cool.

Keep a Record

If you do not keep a record of what you have done (that is, all your rough work and notes), you might end up repeating some of your earlier work without realizing it. This is particularly true if you are going to leave your problem for a while before coming back to it. Make sure you write down exactly where you are up to, so it will be easy to get back into at that later date. I know it seems like a real nuisance writing things

down sometimes, but it is worth it if you save time and get closer to a problem's solution sooner.

Draw a Diagram or Do a Sketch

These mean the same thing, and it is often the best thing to do to start.

Make a List, Then Look for a Pattern

Often in mathematical problems, there are patterns to be looked for that will help in their solution. So it is a good idea to start off a list that you can easily check for patterns. Make sure you include the simpler parts of the problem in your list.

Start with the Easier Parts of the Problem or Make the Problem Simpler

Understanding a simple version of a problem often is the first step to understanding a whole lot more of it. So don't be scared of looking at a simple version of a problem, then gradually extending your investigation to the more complicated parts.

Check Your Answers

You might think you've got it but you'd better check, just in case. This is the vital and final (one hopes) part of solving a problem. And if it is not the final part, it is just as well you checked—isn't it? So always check your answer.

Finally

Best wishes with your problem solving. Keep trying different ways of solving the problems and don't get worried if you run into difficulties. Be positive. I hope the pointers I have provided here are of some help.

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