SIX STEPS TO EFFECTIVE PROBLEM SOLVING STRATEGIES

1. Read the question. Then read it again!

- Do you fully understand the question? Restate the problem in your own words to make sure you understand the question.

2. List all the information that the question gives as well as what it is you are looking for.

- Check the conditions.
- Is it sufficient to determine the unknown? Insufficient? Redundant? Contradictory?

3. Devise a plan

- Find a connection between information and unknown.
- Draw pictures or a diagram, if you can – it helps!
- Think of a related problem, familiar problem, simpler problem, more general problem, more specific problem.

4. Carry out your plan

- Using all of the information the problem gives, translate the problem into a mathematical equation (or a system of equations if necessary).
- Follow the steps in your plan; make sure every step is correct.

5. Solve the equation(s)

6. Check your solution

- Can you derive the solution differently?
- Can you use the result, or the method, for some other problem?
- Can you find an application for the problems in a different context or in real life?

Summary taken from G. Polya, "How to Solve It", 2nd ed., Princeton University Press, 1957, ISBN 0-691-08097-6.