

**1. Accept the problem.** Agree to become a student of the problem, to learn from it.

Accept the challenge to solve difficult problems and to persevere. While undesirable, mistakes are part of every problem solver's journey. Accept that mistakes are forgivable, as long as learning is happening.

**2. Understand the problem.**

- Read the question carefully several time until you understand it.
- Rewrite/Summarize key facts
- Draw a diagram

**3. Devise a Plan.**

- Look for a way to relate the given data to the unknown. Is there an equation that applies?

(a) Create a table to organize data. Is there a pattern?

(b) Is there a similar problem you've seen? (Auxiliary Problem)

(c) Use intelligent guess and check

(d) Use wishful thinking strategy: Is there something you could use to make the problem simpler?

Use auxiliary (helping) construction (e.g. draw the altitude in a triangle); change algebraic form (e.g. complete the square).

**4. Carry out the plan.**

- Use the strategies and check your steps.
- Reread the question to keep yourself on the right track.
- Try not to get stuck on a single approach for too long. There has to be a reasonable time limit for attempting a solution in a particular way.

**5. Look Back.**

- Check to see that the question is answered the way it was laid out.
- Is the result reasonable? Are the units needed?
- Is there a better solution?

**6. Review Solution for Communication**

- Is the flow logical /clear? Is there some explanation of what's being done in addition to equations?
- Does the reader (who could not solve it himself) have to think hard or complete you reasoning to get from one step to the next?