

Dr. Loveless Problem-Solving Routine

Here is my personal problem-solving routine. Students should build their own routine based on the types of errors you tend to make or places you tend to get stuck.

Preliminaries

- Read the question (maybe twice).
- What type of problem is this?
- What will my answer look like?
- **Check/convert units**, if needed.

“Given-and-Want” Problem Solving

1. Identify what we **want**
2. Identify what we are **given**
3. **Fact finding**: Label Unknowns; Related formula
4. **Solve**

“V.E.T.S.” Problem Solving

1. **Visualize**: Draw axes, label unknowns.
2. **Equations**: Equations for curves.
3. **Translate**: Convert words to math.
4. **Solve**: Intersections, distances, anything.

Conclusions:

- Finish labeling the picture.
- Reread the question, is your answer in the correct form.

Checking:

- Did I correctly copy from the original problem?
- Did I check all my solutions to equations?
- Can I visually check my algebra step-by-step?
- Is my answer reasonable?

Reflection

- What surprised me? Where did I get stuck and why?
- What are further questions I would like to ask? What would make this more interesting or fun?