4-Step Process for Problem Solving

1. **Understand the problem**
    - Draw diagrams/sketches
    - Restate problem in your own words
    - List the important details
    - Look for connections/relationships
    - Make a reasonable guess at the solution
2. **Devise a plan**
    - Choose a strategy, or combination of strategies
    - Make a record of false starts, and your corrections
3. **Carry out the plan**
    - Clearly and precisely describe verbally each step of the plan
    - Verify that each step has been done correctly
        - Provide mathematical justification for the step (a convincing argument)
        - Check computations
        - Conduct a "reasonableness" check
4. **Look back**
    - Check solution by referring to the original problem
        - Work backwards
    - Discuss alternate solution strategies
    - Generalize results
        - Ex. General formula for the nth case
    - Consider extensions or variations on the original problem