Summary of the Physics Problem-Solving Strategy

1 **Focus on the Problem**
- Translate the problem statement into your words.
- Draw a sketch and list given information.
- What are you asked to solve?
- What principles will you use to solve this problem (Approach)

2. **Describe the Physics**
- Construct necessary diagrams or representations to help quantify the problem.
- Assign and define variables to the given information (including estimate values).
- Declare a target variable (what you are solving for).
- Make any necessary assumptions necessary to simply problem.
- State the general principles and laws.

3. **Plan the Solution**
- Substitute given information into general principles
- Decide if enough information exists to solve the problem
- If the solution requires multiple principles plan how to use these equations

4. **Execute Solution plan**
- Execute plan.
- Insert numerical values.
- Check that target variable has been found.
- Are the units right?

5. **Evaluate the solution**
- Is the answer complete?
- Is the answer reasonable?
- Is the answer complete?

NAME: _____

Focus the Problem

Picture and given information

Question(s)

Approach

Describe the Physics

Diagrams and Define Variables. Assumptions

Target Variable

Quantitative Relationships

Plan the Solution

Construct specific equations

Check for Sufficiency

Outline the math solution

Execute the Plan

Follow the plan

Calculate the Target Variable

Check units

Evaluate the Answer

Is answer properly stated?

Is answer reasonable?

Is answer complete?