Problem-Solving Process

DEPARTMENT OF PHYSICS AND NUCLEAR ENGINEERING
UNITED STATES MILITARY ACADEMY

ASSESS THE PROBLEM

READ - Read the problem carefully.
- Note/highlight key words and clues.

DRAW - Visualize the situation and draw a sketch.

GIVENS - Write down the given information.

ASSUMPTIONS
- List the assumptions which make the problem more feasible to solve.

DEVELOP A PLAN

TASK - List the quantity you are tasked to solve.

PHYSICS - Identify the fundamental physics concepts.
- Select the physics equations most useful in solving the problem.

EXECUTE THE PLAN

SOLVE - Draw appropriate diagrams (if necessary).
- Apply the physics equations & ***develop algebraic solution.***
- Substitute known values and solve.

EVALUATE THE RESULT

CHECK - **Consider if the result is reasonable.**
- Check units and significant figures.
- Check the direction of vector quantities.