Instructions:

1. Define the problem.
   1. Do this in your own words.
   2. What insight can you offer into the problem that is not immediately visible from the word problem alone?
   3. What is the overall goal?
2. Break the problem apart.
   1. What are the constraints?
   2. What are the sub-goals?
3. Identify Potential Solutions.
   1. For each of the sub-problems you’ve discussed in #2, what is a possible solution?
4. Evaluate each potential solution.
   1. Does each solution meet the goals?
   2. Will each solution work for ALL cases?
5. Choose a solution and develop a plan to implement it.
   1. Explain the solution in full.
   2. Describe some test cases you tried out to make sure it works. (You can include drawings and diagrams as part of your explanation as long as they are clearly communicating the solution).

Problem 1:

Problem 2:

Problem 3: