## **Driving for Gas Modeling Problem**

## The Problem

Gas prices change on a nearly daily basis, and not every gas station offers the same price for a gallon of gas. The gas station selling the cheapest gas may be across town from where you are driving. Is it worth the drive across town for less expensive gas? Create a mathematical model that can be used to help understand under what conditions it is worth the drive.



**Step 1: Spies**–*What information do I need and how do I acquire it?* 

- Do I understand the problem?
  - o Can I make a simpler more concrete problem to work with?
  - o Can I draw a graph, table, picture, or other representation to help me understand it?
- What information do I need?
- How will I acquire it?
- What assumptions am I going to make? What facts or statements am I going to take for granted?

Step 2: Analysts- Take the information and work with it to figure out how to use it.

Part 1

- Decide what information to keep and what if any to discard? Is there other information still needed?
- Create a picture, graph, chart, or other representation (or revise the spies initial model) to help me and others understand the data?

• Do the math for the simple problem you created. Show calculations and label units.

- What is your solution?
  - o Does it make sense?
  - o Is it clear?
  - o Does it answer the question?
  - o Is the level of precision appropriate?
- Do I need to revise my model and/or solution?