## Worksheet: Non-Linear Thinking and Problem Solving

1. On a train, Williams, Edwards, and Paul are a teacher, scientist, and a doctor, but NOT respectively. Also aboard the train are three businessmen who have the same names: a Mr. Williams, a Mr. Edwards, and a Mr. Paul.
   1. Mr. Edwards Lives in New York.
   2. The scientist lives exactly halfway between Chicago and New York
   3. Mr. Paul earns exactly $60,000 per year.
   4. The scientist’s nearest neighbor, one of the businessmen, earns exactly three times as much as the scientist.
   5. Williams beats the teacher in billiards.
   6. The passenger whose name is the same as the scientist lives in Chicago.

Who is the doctor? Williams OR Edwards OR Paul?

1. Adapting to Change. In the following examples, provide ways the subjects can adapt to their situation.
2. Right before a teacher is about to start class, she realizes she is short 50 copies of an assignment. The nearest copier is down the hall and someone is running off what looks like 100 copies of War and Peace.
3. A species of warm water fish in the Seychelles is being driven out of its warmer ecosystem to colder waters.
4. An airline is faced with new regulations and higher fuel costs.
5. A new manager realizes that several employees on the team was up for the job she just was assigned. Some of the team members are resentful of the changes and the fact the new manager is much younger than they are.
6. A 12-year old girl transfers to a new school in right after the Thanksgiving holiday.

**Case Study: Logic Problem**

You are a high school mathematics teacher and you want your students to improve their reasoning skills. You assign word problems, but most of the students just are not getting it. At the present time, the students do not comprehend the process of using logic and why the word problems are important or relevant to them. Some students can do the calculations, but even these students lack an understanding of the process of logic. You want your students to understand that coming up with the right answer is not the most important goal in solving the word problems. You realize you have to come up with some way to

* Change your student’s thinking from linear to non-linear
* Get the student’s to better understand the process of logic