MthT 491 Introducing Variables

Turn in Tuesday, November 8, 2003.

From **Math Olympics - Rome**, March 21, 1997:

1. Two cars traveling at constant speed on a track are side by side every 56 minutes. If, with the same speeds, one of the cars were traveling in the opposite direction, the two cars would meet every 8 minutes. How long does it take the faster car to complete one lap on the track?

   Solve the problem (call this the *scratch solution*). Observe the variable(s) you introduce. Using complete sentences, write a complete detailed solution including

- A complete description of the variable(s), including units.

   Turn in both your *scratch solution* and carefully written solution.

2. Two cars traveling at constant speed on a track are side by side every 112 minutes. If, with the same speeds, one of the cars were traveling in the opposite direction, the two cars would meet every 16 minutes. How long does it take the faster car to complete one lap on the track?

   Solve the problem. Observe the variable(s) you introduce. Using complete sentences, write a complete detailed solution including

- A complete description of the variable(s), including units.

3. Make a conjecture and back it up!