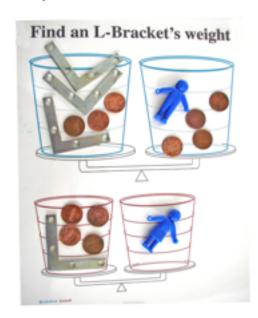## 8-11   Introduction to Subsitition - Overhead Transparancy

- We have found that using this document on a white board or as an overhead transparency helps students understand the concept of substitution. On the bottom of the document, in small type, you will find the equations $3L + 3 = P + 4$ and $L + 4 = P$. We used L-Brackets and little People to represent the variables and asked students to determine the weight, in pennies, of one L-Bracket.
  (Of course, you can use any objects you have available. Be sure to fill in the blanks on the top of the document so students know which object's weight they are trying to determine.) We place the objects so it appears they are in the glasses as shown.

Find an L-Bracket's weight

- Most likely, students will not be able to determine the answer by just observing, but as you ask for suggestions on how to solve this puzzle, someone may suggest that the bottom two "glasses" tell that one person weighs the same as one L-Bracket and four pennies. Therefore you can replace the person in the top right glass with one L-Bracket and four pennies.   After that it will be easy to determine the weight of an L-Bracket. (Take one L-Bracket from each side of the top two glasses, then take three pennies from each glass and it's easy to see that each L-Bracket must weigh $2^1/_2$ pennies.

  This simple demonstration should allow students to more easily understand the concept of subsitution they will learn in handout 8-12.