The following assignment is to give you practice designing problems to model the arithmetic concepts you will teach. The problems you design should be aimed to an elementary student. Make sure to solve the problem you write and give a complete explanation of the reasoning, appropriate for an elementary student, with pictures and diagrams if necessary. (Grading is according to the homework rubric.)

1. (20 pts) Write a subtraction problem for each of the following subtraction concepts:
   
   (a) take-away
   
   (b) comparison
   
   (See SP pp. 21-27 for examples.)

2. (20 pts) Write a “recipe”-type fraction problem that involves at least two fractions which refer to different wholes. (See Beckman p. 76 for examples.)

   Make sure your solution includes pictures and that for each fraction, you identify the whole which is associated to that fraction. Do not just indicate how many pieces the whole is divided into (e.g. “The whole is \( \frac{3}{5} \)). Make sure to also identify the physical object or quantity which is the whole (e.g. the whole is \( \frac{3}{5} \) a cup of flour or \( \frac{1}{2} \) a tank of gasoline).