

A Weighty Problem

Problem-of-the-Week

The Problem

Five thrifty, but ingenious, high school girls want to weigh themselves on a coin-operated scale. They want to pay only once. Two of the girls climb onto the scale, drop in the coin, and record their combined weight. One girl gets off the scale, another girl gets on, and they record their combined weight. This continues until the girls have the following weights recorded: 188, 192, 196, 199, 203, 204, 207, 208, 212, and 219. Now they ask you to tell them their individual weights. Can you?



Strategies and Hints

1. Create your own simpler problem with just 3 people. Can you determine a method of solution for this simpler problem?
2. Identify the girls by letter. How many possible pairs can you make?
3. How many times is each girl weighed?
4. Can you calculate the girls' total weight?