## Division Sample Problems

**129. Tom made a batch of Trail Mix using these ingredients: 15 ounces of cereal; 16 ounces of peanuts; 12 ounces of raisins; 13 ounces of chocolate chips.**

a. How many ounces of Trail Mix did Tom make?

**Using a kitchen scale, he put 14-ounce portions of the mix into zip-top bags.**

b. How many bags of Trail Mix did Tom fill?
Explain how you got your answer.

Since there is no "division fact" which relates 14 and 56, we expect students to do, numerically, exactly what Tom did with his scale—remove (subtract) 14 ounces; then remove 14 more ounces; and continue until the mix is gone.

**130.** Provide 42 beans, or other convenient counters, for each pair of students.

**With your partner:**

a. Take 42 counters from the supply provided by your teacher.

b. If you separate your counters into 3 equal-numbered groups, how many will there be in each group?
Be prepared to explain what you did to find the answer to part b.

Again, since there is no multiplication/division "fact" relating 3 and 42 ($3 \times ? = 42$ or $42 \div 3 = ?$), students will have to actually distribute the counters. How tedious the process is depends on how quickly they begin to distribute sets of 2 or more counters to each group. But it is important to let them discover this for themselves—because it will be useful and meaningful in the numerical process which is based on this model.

These two problems (#**129.** and #**130.**) are intended to be the conceptual foundation for the students' eventual understanding of, and proficiency with the "long division" algorithm. But a direct jump, from distributing cubes to doing traditional long division is not reasonable. We will bridge the gap with in-context successive subtraction, beginning in the next section.