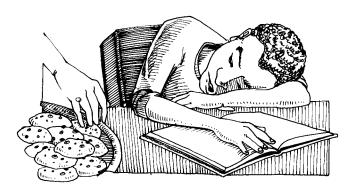GM-20.   COOKIES FOR DESSERT

a)   Three algebra students were
      doing their homework
      together. As a treat, one
      mom offered to bake some
      cookies. While waiting for
      them to cool, all three
      students fell asleep. After a
      while, Latisha woke up, ate
      her equal share of cookies
      and went back to sleep. A
      little while later, Susan
      woke up, ate what she
      thought was her equal share and fell asleep again. Then Hieu woke up, ate
      what she thought was her equal share, and went back to sleep. Later, all
      three kids woke up and discovered 8 cookies left. How many cookies were
      baked originally?

b)   The next day, four students got together to study. Another mom baked
      cookies. Again the four students fell asleep. As before, they woke up one
      at a time and each ate her equal share. When they all awakened, they
      discovered 81 cookies remained.

      How many cookies were baked originally?

Your Task:

- Solve both problems.

- Compare the original cookie numbers to the final numbers of cookies left.
  What is their relationship?

- **What would happen if there were 5 students? As before, each student
  ate her equal share of what was left. When they all awakened, how
  many cookies remained? How many cookies were baked originally?**

- Explain how this problem would work for any number of students.