# Movie Madness

## The Problem

José and Mike are members of a school video club. They were discussing sharing homemade videotapes. When José asked to borrow Mike's videos, Mike replied: "Each video completely fills one videotape. I have just one videotape at home. However, I used to have lots of tapes. I gave $\frac{1}{2}$ of my videotapes plus $\frac{1}{2}$ a tape to JoAnne. I gave $\frac{1}{2}$ of my remaining videotapes and $\frac{1}{2}$ a tape to Maritza. Lastly, I gave $\frac{1}{2}$ of my remaining videotapes and $\frac{1}{2}$ a tape to Jeff."

How many videotapes did Mike have originally? Why could JoAnne, Maritza, and Jeff watch all of the videotapes that Mike gave them?

## Strategies and Hints

1. Be sure you understand the conditions of the problem. Discuss with others how Mike can share $\frac{1}{2}$ a videotape.
2. Try to solve the problem using smaller numbers of videotapes. For instance, you might try 7 or 8 tapes.
3. Make a chart using different numbers of videotapes.

## Extension

If the video club used the procedure Mike followed and gave videotapes to 12 students, how many tapes did they have in their library?