Problem-Solving Strategy: Make an Organized List

Read It Look for information.

Mr. Thomas is making three layered candles. He is using red, green, and blue wax. How many different ways can he arrange the three colors in the candles?

Organize It

You can make an organized list to help you solve the problem.

- red, green, blue
- red, blue, green
- green, blue, red
- green, red, blue
- blue, red, green
- blue, green red

There are two ways to arrange colors when red is first.
There are two ways to arrange colors when green is first.
There are two ways to arrange colors when blue is first.

Solve It

There are 6 different ways to arrange the colors in the candles.

Make an organized list to solve each problem. Show your work.

1. Julie, Mark, and Ling are standing in a line. How many different ways can they be arranged from first to last?

2. Lindsay is using the digits 5, 9, 7, and 3 to make as many four-digit numbers as she can. How many different ways can she arrange the digits?

3. Marcus is wrapping a birthday present for his mother. There are red, blue, silver, and white wrapping papers and four types of white bows. From how many different combinations of paper and ribbon can Marcus choose?