# How Many

1. 7 pitchers and 3 catchers are on a baseball team. How many different ways can the manager select one pitcher and one catcher for a game? *21*
2. A biochemist mixed 6 chemicals together, but does not remember the order. How many possibilities are there? *720*
3. In how many different ways can 5 books be placed on a shelf? What's the probability that they are placed in the correct order? *120, 1/120*
4. A student has 8 textbooks to fit in her bag, but only 5 fit. In how many ways can they be selected? *56*
5. A committee of 4 governors is being chosen out of 50. How many possibilities are there?

*230,299.9*

# Mixed Review

1. Which has the greatest likelihood of happening:
   1. 0.18
   2. 0.81
   3. 0.97
   4. 0.097
2. The lock on a vault has 3 dials, each with 30 positions. How many different possibilities are there? *27,000*
3. A nurse can select any of 5 skirts, 4 blouses, and 3 hats to wear. How many outfits are possible? *60*
4. In how many ways can a group of 7 scientists be selected out of 10? *120*
5. How many different 9- digit social security numbers are there? *1,000,000,000*