1. *List* the sample space for the experiment that consists of flipping a fair coin and observing the up face, and then tossing a fair die and observing the up face.

2. *List* the sample space for the experiment that consists of flipping two fair coins and observing the up face on each.

3. *List* the sample space for the experiment that consists of tossing a pair of fair dice and observing the up face on each.

- 4. Two cards are drawn at random from a well-shuffled standard deck of 52 playing cards.
 - a. Determine the number of outcomes in the sample space of this experiment if the first card is replaced before the second card is drawn.
 - b. Determine the number of outcomes in the sample space of this experiment if the first card is *NOT* replaced before the second card is drawn.

- 5. Four marbles are drawn at random from a bag containing 7 black marbles and 10 red marbles.
 - a. Determine the number of outcomes in the sample space of this experiment if the marbles are drawn without replacement.

b. Determine the number of outcomes if there must be 2 of each marble.

c. Determine the number of outcomes if there must be at least 2 red marbles.