1. Explain what is meant by a binomial experiment and give an example.
2. Create a binomial experiment. Assign probabilities and determine the probability of one outcome in three trials.
3. Write a probability problem for which ${ }_{6} \mathrm{C}_{2}(0.2)^{4}(0.8)^{2}$ is the solution.

Answers may vary. Sample: A binomial experiment is an experiment with exactly two outcomes. For [1] example, tossing a coin has only two possible outcomes, heads or tails.

Answers may vary. Sample: Place 5 cards in an envelope. Three say "yes" and two say "no". A card is selected, noted, and put back. What is the probability that you will get "yes" three times?
$P(Y Y Y)=0.216$
[2]
Answers may vary. Sample: Find the probability that it will rain during four of the next six days if the [3] probability of rain each day is $20 \%$.

