Chapter 17: Probability Models
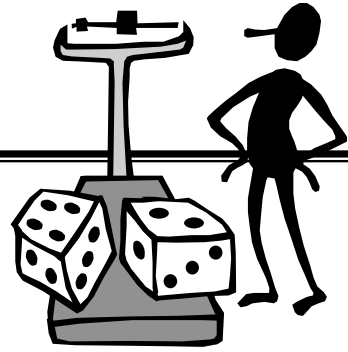
Key Vocabulary:

- Bernoulli trials
- Geometric model
- Binomial model

Calculator Skills:	▪ geometpdf(	▪ binompdf(
	▪ geometcdf(	▪ binomcdf(

1. List three characteristics of Bernoulli trials.

2. What is the variable of interest in a *geometric model*?

3. How do you find the *expected value* and *standard deviation* of a *geometric random variable*?

4. In the *geometic distribution*, what does the parameter *p* represent?

5. If *X* has a *geometric distribution*, what does $(1 - p)^{n - 1}p$ represent?

6. What is the difference between a *probability distribution function* (pdf) and a *cumulative distribution function* (cdf)?

7. What is the variable of interest in a *binomial model*?

8. Explain the difference between the *binomial setting* and the *geometric setting.*

9. How do you find the *expected value* and *standard deviation* of a *binomial random variable*?

10. In the *binomial distribution*, what do parameters *n* and *p* represent?

11. What is meant by *B(n, p)* ?

12. In the formula $\binom{n}{k} = \dfrac{n!}{k!(n-1)!}$, what does *n* represent? What does *k* represent?

What does the value of $\binom{n}{k} = \dfrac{n!}{k!(n-1)!}$ represent?

13. Complete the following table of values:

1!		1	1	5!	5 x 4 x 3 x 2 x 1	
2!	2 x 1	2		6!		
3!	3 x 2 x 1	6		7!		
4!	4 x 3 x 2 x 1	24		n!		

14. What is the value of $\dfrac{n!}{(n-1)!}$?