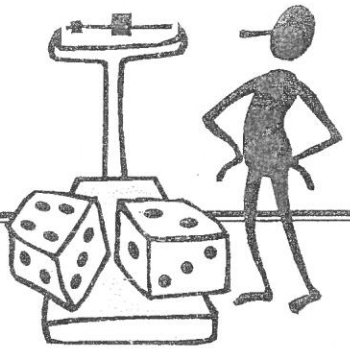
Chapter 20: Testing Hypotheses About Proportions



Key Vocabulary:

- hypothesis
- null hypothesis
- reject (the null hypothesis)
- fail to reject (the null hypothesis)
- alternative hypothesis

Calculator Skills:

- 1-Prop ZTest

1. What is a *hypothesis*?

2. After analyzing a set of data, if the results support a *hypothesis*, does that prove the *hypothesis* is true? Explain.

3. After analyzing a set of data, if the results are inconsistent with a *hypothesis*, does that prove the *hypothesis* is false? Explain.

4. What does it mean to *reject* a *hypothesis*?

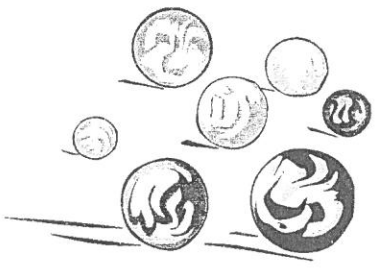
5. When testing *hypotheses*, always start by assuming that the *null hypothesis* is true. What is meant by a *null hypothesis*?

6. Given a *null hypothesis* $H_0 : p = p_0$, what are the parameters of the Normal sampling distribution model? Under what conditions is this model appropriate?

7. How would you determine whether a particular value of $\hat{p}$ is so unlikely to have occurred (assuming $p = p_0$) that you would *reject* the *null hypothesis*?

8. Why do we say we "*fail to reject*" the *null hypothesis* rather than "accept" the *null hypothesis*?

9. What is meant by an *alternative hypothesis*?

10. What is meant by a P-value?

11. Explain the difference between a two-sided alternative hypothesis and a one-sided alternative hypothesis. Draw a sketch