

Which test should I use?

### ***Sample vs. proportion***

- “sample” compares **averages** (average and standard deviation given)
- “proportion” compares **percents**

### ***One vs. two***

- “One” compares actual with expected
- “Two” compares two separate groups

Giveaways—what to look for:

### **One-sample t-test**

- One **SMALL** sample
- Problem asks about average

### **One-sample z-test**

- One **BIG** sample
- $\sigma$  is given
- “According to the U.S. Census...”
- Problem asks about average

### **Two-sample t-test**

- Two samples
- Is one average bigger than the other?
- 2 averages and 2 S.D.s are given

### **One-proportion z-test**

- Is a percent larger or smaller than expected?
- Look for “%” or “out of”

### **Two-proportion z-test**

- Is one percent larger than another percent?
- Two groups (men/women, etc.)
- Look for “%” or “out of”

### **Standard Deviation $X^2$ Test**

- Is the S.D. too large
- Is the data too spread out?
- The **question** asks about standard deviation
- There is only 1 sample, but 2 S.D.s

### **Categorical $X^2$ Test**

- More than 2 categories
- Count up how many in each

### **Matrix $X^2$ Test**

- Information is (or can be) in a table
- Counting up number in each place in the table

### **Correlation r-Test**

- Words like “increase” and “decrease”
- As one thing happens, ...

### **Sign Test**

- Are there more in one group than another?
- Just counting—doesn’t have averages and S.D.s

### **Runs Test**

- Is it RANDOM?