

Notes 10 Questions

1. Proportions

The professor believes that across all years/teachers, **10% of stat students are freshman.**

In a given class, 14% of students are freshman.

How would you advise him?

- A. The 10% expectation is probably wrong.
- B. The 10% expectation is probably right.
- C. Need to know what % deviations happen by chance.

2. Expected frequency.

How did we determine **expected frequency** for a given college year?

- A. Value provided in the question
- B. Value provided in the question * total students
- C. Observed value / total students
- D. Not enough information

3. Chi-square values

If the **observed** values are **very different** than **expected** values, the chi-square value will be:

- A. Zero
- B. Close to zero
- C. Very large in either positive or negative direction
- D. Very large in positive direction
- E. Very large in the negative direction

4. Critical values

What is your guess for how we will find a **critical χ^2** value?

- A. A standard error formula
- B. Find in a table based on alpha
- C. Because this is nominal data, who knows?

5. Hypothesis Test - Decision

If the **test χ^2** is greater than the **critical χ^2** , what do we decide?

- A. The proportions in the null hypothesis are too low
- B. The proportions in the null hypothesis are too high
- C. The proportions in the null hypothesis are correct
- D. The proportions in the null hypothesis are not correct

6. Sunny Driving

If weather did **not** affect commute,

how many days would you be **driving in sunny weather**?

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A. 4

B. 5

C. 16

D. 21

E. Not enough info

7. Cloudy Driving

If you drive as much as possible on cloudy days (weather **does effect** commute),

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If you drive as much as possible on cloudy days (weather **does effect** commute),

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- A. 0
- B. 4
- C. 5
- D. 9
- E. Not enough info

8. Independent factors

Which is a valid reason for stating that

- handedness (LEFT/RIGHT) and
- belief in god (DO/DON'T)

are **independent factors**.

A. Being right handed doesn't change the likelihood of believing in god.

B. The split for handedness (90% right versus 10% left) is not equal to the split for belief (60% do versus 40% don't).

9. All the same

You want to test if all 6 UCSD colleges have an **equal proportion** in a class.

What is the percentage you would expect for each college?

- A. 6%
- B. 17%
- C. 25%
- D. Depends on class size
- E. Depends on college size