

courseera.org/learn/inferential-statistics-intro/exam/2X23/week-4-lab/attempt?redirectToCover=true

Week 4 Lab
Graded Quiz • 30 min

English Due May 26, 11:59 PM IST

1. How many people were interviewed for this survey? 1 / 1 point

- ☐ A poll conducted by WIN-Gallup International surveyed 52,000 people from 57 countries
- ☐ A poll conducted by WIN-Gallup International surveyed 51,000 people from 57 countries
- ☒ A poll conducted by WIN-Gallup International surveyed 51,927 people from 57 countries
- ☐ A poll conducted by WIN-Gallup International surveyed 51,917 people from 57 countries

Correct

2. Which of the following methods were used to gather information? 1 / 1 point

- ☐ Face to face
- ☐ Telephone
- ☐ Internet
- ☒ All of the above

Correct

3. In the first paragraph, several key findings are reported. These percentages appear to be sample statistics. 1 / 1 point

- ☒ True
- ☐ False

Correct

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4. The title of the report is "Global Index of Religiosity and Atheism". To generalize the report's findings to the global human population, We must assume that the sample was a random sample from the entire population in order to be able to generalize the results to the global human population. This does seem to be a reasonable assumption. 0 / 1 point

- ☐ False
- ☒ True

Incorrect

5. What does each row of Table 6 correspond to? 1 / 1 point

- ☐ Religions
- ☐ Individual Persons
- ☒ Countries

Correct

6. What does each row of atheism correspond to? 0 / 1 point

- ☒ Countries
- ☐ Individual Persons
- ☐ Religions

Incorrect

7. Using the command below, create a new dataframe called us12 that contains only the rows in atheism associated with respondents to the 2012 survey from the United States. Next, calculate the proportion of atheist responses. 1 / 1 point

```
library(dplyr)
atheism %>%
  filter(year == 2012, country == "United States") %>%
  summarise(proportion = sum(atheism == "Atheist") / n())
```

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7. Using the command below, create a new dataframe called us12 that contains only the rows in atheism associated with respondents to the 2012 survey from the United States. Next, calculate the proportion of atheist responses. [TRUE / FALSE] This percentage agrees with the percentage in Table 6. 1 / 1 point

☒ True
☐ False

✓ Correct

8. Based on the R output, what is the margin of error for the estimate of the proportion of the proportion of atheists in US in 2012? 0 / 1 point

☐ The margin of error for the estimate of the proportion of atheists in the US in 2012 is 0.0135.
☐ The margin of error for the estimate of the proportion of atheists in the US in 2012 is 0.05.
☒ The margin of error for the estimate of the proportion of atheists in the US in 2012 is 0.025.

✗ Incorrect

9. Which of the following is false about the relationship between p and ME. 0 / 1 point

☒ The ME reaches a minimum at $p = 1$
☐ The most conservative estimate for calculating a confidence interval occurs when p is set to 1
☐ The ME is maximized when $p = 0.5$
☐ The ME reaches a minimum at $p = 0$

✗ Incorrect

10. There is convincing evidence that Spain has seen a change in its atheism index between 2005 and 2012. 0 / 1 point

8. Based on the R output, what is the margin of error for the estimate of the proportion of the proportion of atheists in US in 2012? 1 / 1 point

☐ The margin of error for the estimate of the proportion of atheists in the US in 2012 is 0.025.
☐ The margin of error for the estimate of the proportion of atheists in the US in 2012 is 0.05.
☒ The margin of error for the estimate of the proportion of atheists in the US in 2012 is 0.0135.

✓ Correct

9. Which of the following is false about the relationship between p and ME. 1 / 1 point

☒ The most conservative estimate for calculating a confidence interval occurs when p is set to 1
☐ The ME reaches a minimum at $p = 1$
☐ The ME is maximized when $p = 0.5$
☐ The ME reaches a minimum at $p = 0$

✓ Correct

10. There is convincing evidence that Spain has seen a change in its atheism index between 2005 and 2012. 0 / 1 point

☐ False
☒ True

✗ Incorrect

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10. There is convincing evidence that Spain has seen a change in its atheism index between 2005 and 2012. 0 / 1 point

☐ False

☒ True

Incorrect

11. There is convincing evidence that the United States has seen a change in its atheism index between 2005 and 2012. 0 / 1 point

☐ True

☒ False

Incorrect

12. If in fact there has been no change in the atheism index in the countries listed in Table 4, in how many of those countries would you expect to detect a change (at a significance level of 0.05) simply by chance? Hint: Type I error. 0 / 1 point

☐ 1.95

☒ 5

☐ 0

☐ 1

Incorrect

13. Suppose you're hired by the local government to estimate the proportion of residents that attend a religious 1 / 1 point

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☐ True

☒ False

Incorrect

12. If in fact there has been no change in the atheism index in the countries listed in Table 4, in how many of those countries would you expect to detect a change (at a significance level of 0.05) simply by chance? Hint: Type I error. 0 / 1 point

☐ 1.95

☒ 5

☐ 0

☐ 1

Incorrect

13. Suppose you're hired by the local government to estimate the proportion of residents that attend a religious service on a weekly basis. According to the guidelines, the estimate must have a margin of error no greater than 1% with 95% confidence. You have no idea what to expect for p . How many people would you have to sample to ensure that you are within the guidelines? Hint: Refer to your plot of the relationship between p and margin of error. Do not use the data set to answer this question. 1 / 1 point

☐ 9604 people

☐ 2401 people

☒ At least 9604 people

☐ At least 2401 people

Correct