Lesson 18: Inference for Two Proportions

Homework

## Solutions

**Please note that the steps show rounded numbers, but that the final answers to the problems are calculated without rounding.**

|  |  |  |
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| Problem | Part | Solution |
| 1 | - | Pie |
| 2 | - | The requirements are met. |
| 3 | - | ( -0.092 , -0.037 ) We are 95 % confident that the true difference of the proportions of city children with hay fever and rural children with hay fever is between -0.092 and -0.037 .  If you swapped the definition of groups 1 and 2, then you would get the same values with opposite signs: ( 0.037 , 0.092 ). This is also correct. |
| 4 | - | No. This means that it is plausible that the likelihood of a child contracting hay fever is different in the city than in rural areas. |
| 5 | - | The requirements are met. |
| 6 | - | ( -0.00053 , -0.00029 ) We are 95 % confident that the true difference of the proportions of vaccinated children who developed polio and non-vaccinated children who developed polio is -0.00053 and -0.00029 .  If you swapped the definition of groups 1 and 2, then you would get the same values with opposite signs: ( 0.00029 , 0.00053 ). This is also correct. |
| 7 | - | Pie  Bar |
| 8 | - | The requirements are met. |
| 9 | - |  |
| 10 | - |  |
| 11 | - |  |
| 12 | - |  |
| 13 | - | applet |
| 14 | - | reject the null hypothesis |
| 15 | - | There is sufficient evidence to suggest that the proportion of men who cheat in college is greater than the proportion of women who cheat in college. |
| 16 | - | The p-value would double and be equal to 0.076 . This p-value is not significant and we would fail to reject the null hypothesis. With a two sided test we would not have sufficient evidence to conclude that there is a difference between the proportion of women and men who cheat in college. |
| 17 | - | The requirements are met. |
| 18 | - |  |
| 19 | - |  |
| 20 | - |  |
| 21 | - |  |
| 22 | - | applet |
| 23 | - | reject the null hypothesis |
| 24 | - | There is sufficient evidence to suggestthat the proportion of Clarinex subjects with dry mouth is different than the proportion of placebo subjects with dry mouth. |