

Binomial Test Examples

1. Of 104 pregnant women in a study, 57 correctly guessed the gender of their unborn children. Use this data and a significance level of 5% to test the claim that the proportion of women who can correctly guess the gender of their babies is 50%.
2. Among 726 babies born to couples using the XSORT method in an attempt to have a girl, 668 of the babies were girls. Use this data and a significance level of 0.01 to test the claim that most babies born to couples using the XSORT method are girls.
3. Among 1000 college applicants, 530 applied online. Use this data and a significance level of 5% to test the claim that the proportion of college applicants who apply online is not 0.5.
4. In a survey, 1864 of 2246 randomly selected adults in the US said that texting while driving should be illegal. Use this data and a significance level of 5% to test the claim that more than 80% of adults in the US believe that texting while driving should be illegal.
5. In a survey, 1640 of 2246 randomly selected adults in the US said that using a cell phone while driving should be illegal. Use this data and a significance level of 5% to test the claim that less than 80% of adults in the US believe that using a cell phone while driving should be illegal.
6. A survey of 750 people over the age of 14 showed that 35 of them had been arrested within the last year. Use this data and a significance level of 5% to test the claim that fewer than 5% of people over the age of 14 were arrested in the last year.
7. In a poll of 745 adults, 589 said that it is morally wrong not to report all income on tax returns. Use a 0.01 significance level to test the claim that 75% of adults say that it is morally wrong not to report all income on tax returns.
8. In the first US Open in which players could challenge referees' calls through electronic replays, players made 839 challenges. Of these challenges, 327 were successful. Test the claim that more than $\frac{1}{3}$ of such challenges are successful.
9. Among 724 patients treated with Tamiflu in a clinical trial, 72 experienced nausea. Use a .05 significance level to test the claim that the rate of nausea is greater than 6%. (The rate of nausea in patients receiving a placebo was 6%.)
10. Of 45 pregnant women with more than 12 years of education, 32 were able to correctly predict the gender of their children. Use these results to test the claim that women with more than 12 years of education can predict the gender of their children correctly more than half of the time.