

# Hypothesis Testing

## One Proportion/One mean

Math 122

# One Mean

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# Super Models

- A random sample of super models had these heights (in inches)

66, 69, 69, 72, 72, 70, 71, 68

- Use this data to test the claim:
- **Super models have an average height which is different from the average adult female height of 63.6 in.**
- Use a 0.01 significance level.





# Height of Track Athletes

- A random sample of 25 female college track athletes had an average height of 65.6 inches with a standard deviation of 2.7 inches.
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- Use this data to test the claim:
- **The mean height of female college tracksters is the same as the college female average of 63.8 inches.**





# One Proportion

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# Gender Selection

- Among 726 babies born to couples using the XSORT method in an attempt to have a baby girl, 668 of the babies were girls.
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- Test the claim: **Most babies born to couples using the XSORT method are female.**





# Gender Prediction

- 104 pregnant women were asked to predict the gender of their child. Of these, 57 guessed correctly.
- Test the claim: **The success rate of women guessing the gender of their children is at least 50%.**





# Clinical Testing

- Among 724 patients given Tamiu in a clinical trial, 72 experienced nausea.
- Test the claim: **The rate of nausea in patients using Tamiu is greater than 6%.**

(6% was the rate among patients receiving a placebo.)



1. Concordia students on average get less than 6 hours of sleep each night.
2. Most Concordia students get less than 6 hours of sleep each night.
3. The average height of a male student at Concordia is 70 inches.
4. Less than one third of Concordia students have gone to Chapel at least once this week.
5. On average, Concordia students take at least 16 credit hours.
6. The proportion of students at Concordia who are male is not one half.