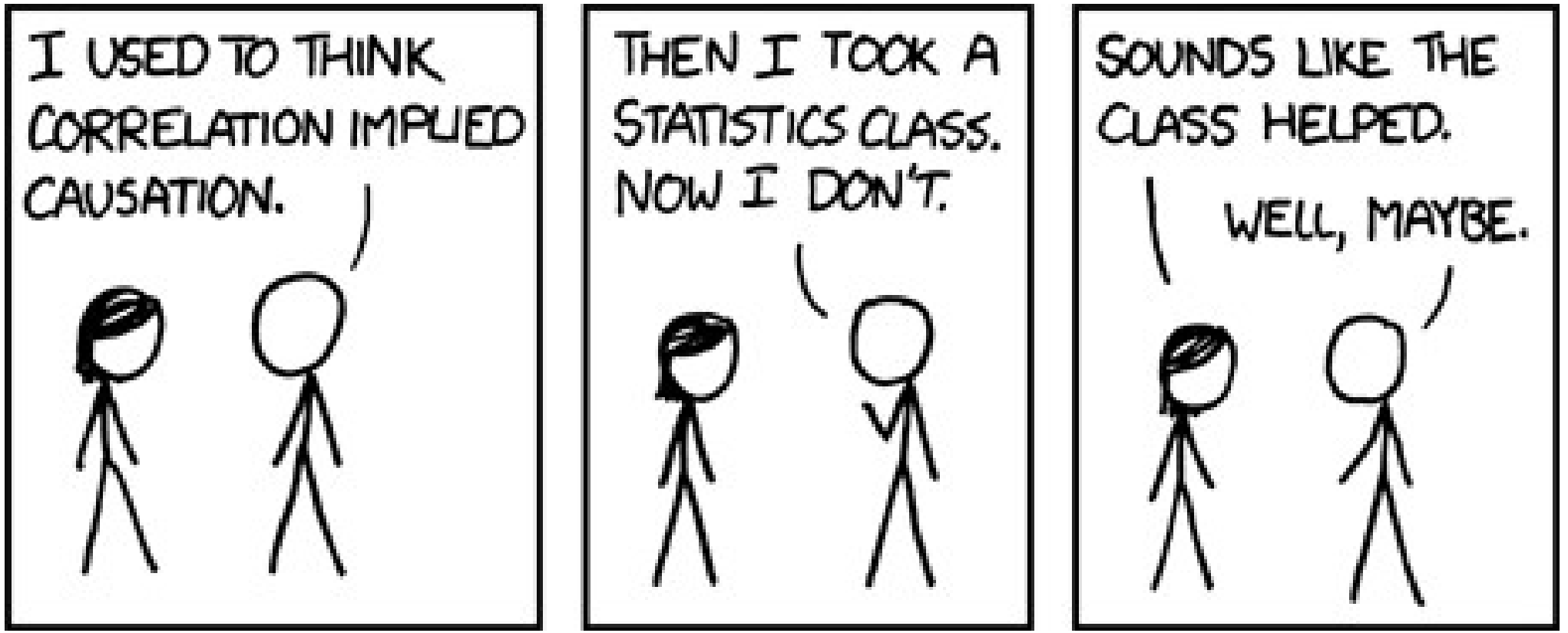
Inquiry 1 reports due in about 2 weeks

Today: Analyzing Data and Statistics



xkcd.com

Stats quiz:

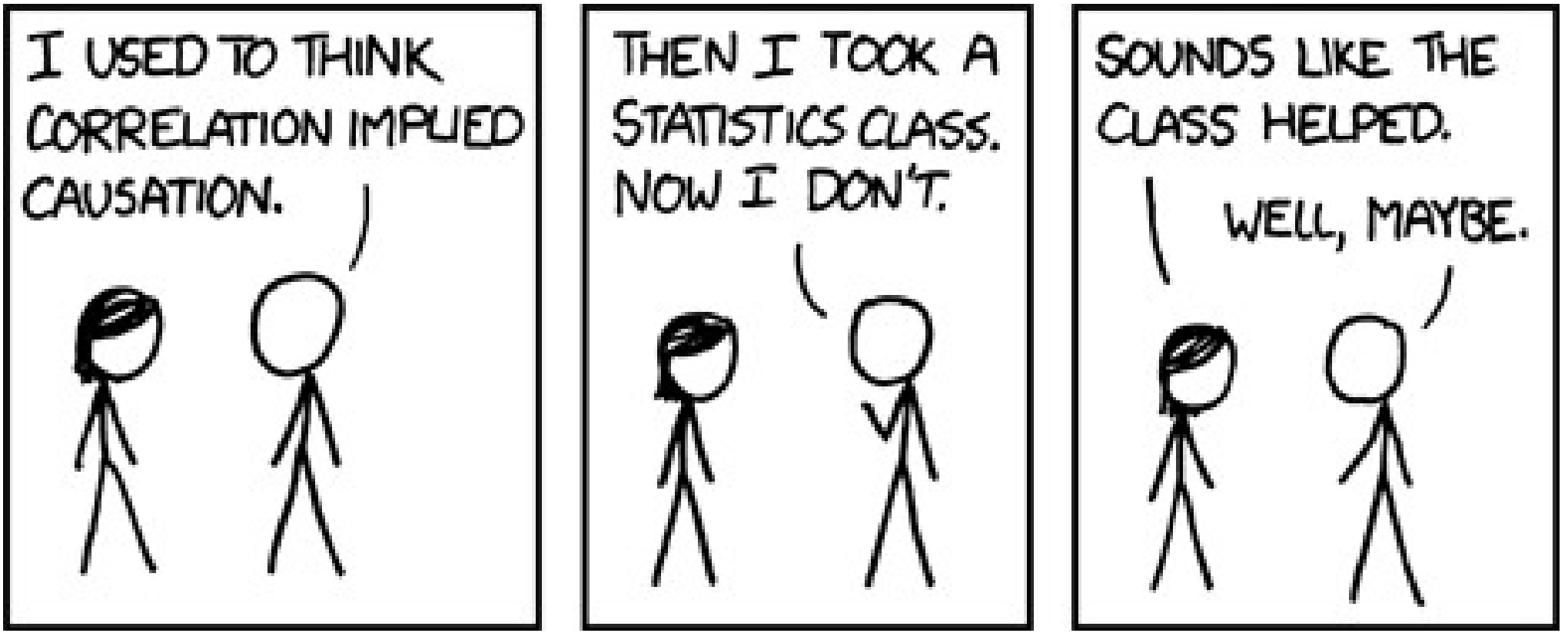
1. Why would median be used instead of mean?

2. Why would mode be used to analyze data?

3. Does an R-squared value of 0.15 indicate a strong correlation?

4. What does the Dixon's Q-test do?

Why use statistics?



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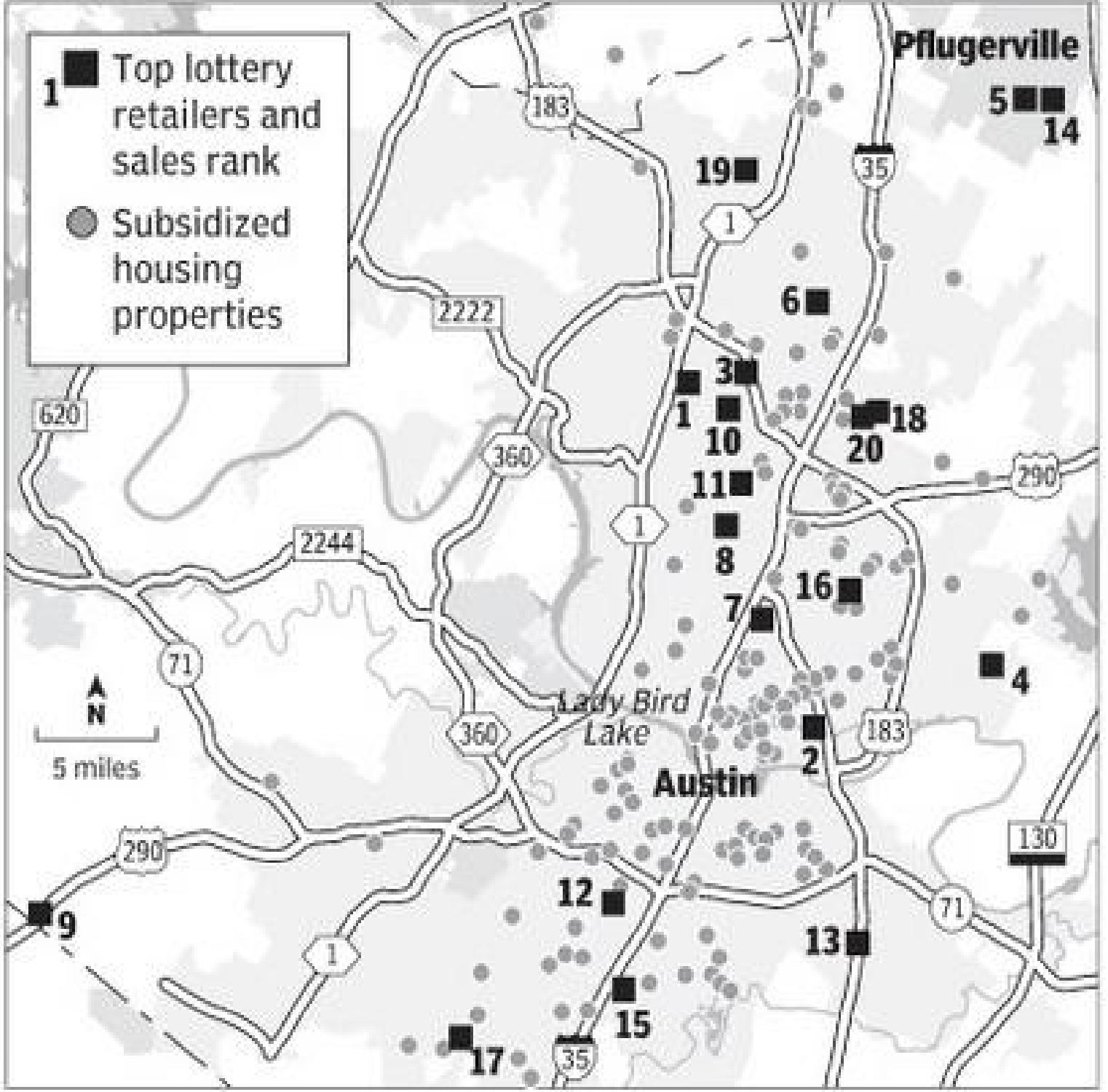
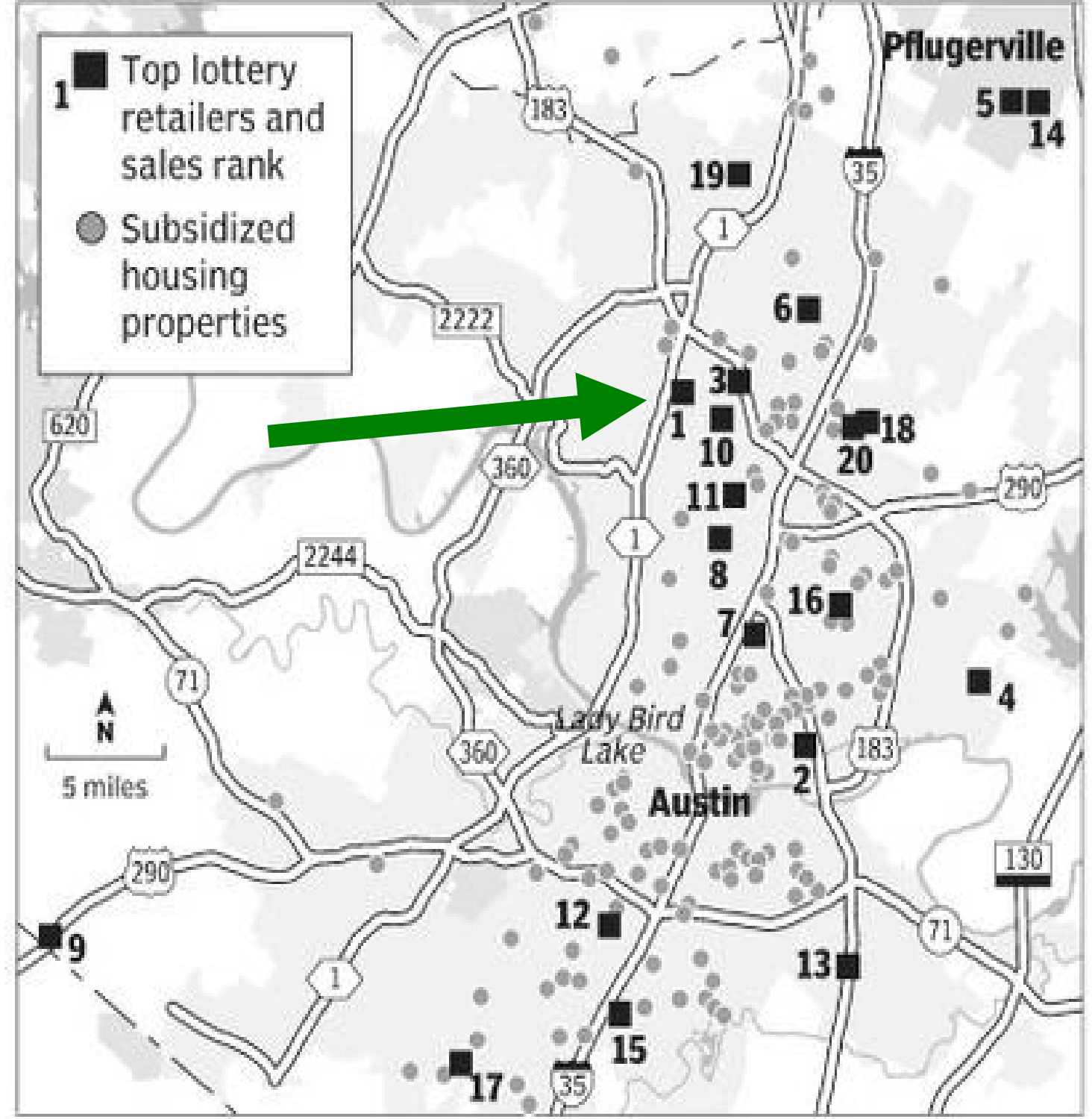


statesman.com 9/5/10

AMERICAN-STATESMAN

"Austin's top lottery outlets are surrounded by low-income housing."



statesman.com 9/5/10

AMERICAN-STATESMAN

"the best-selling lottery outlet is the Zip-N, on Shoal Creek Boulevard at Anderson Lane, an area with a mix of upscale homes, older subdivisions and apartment complexes."

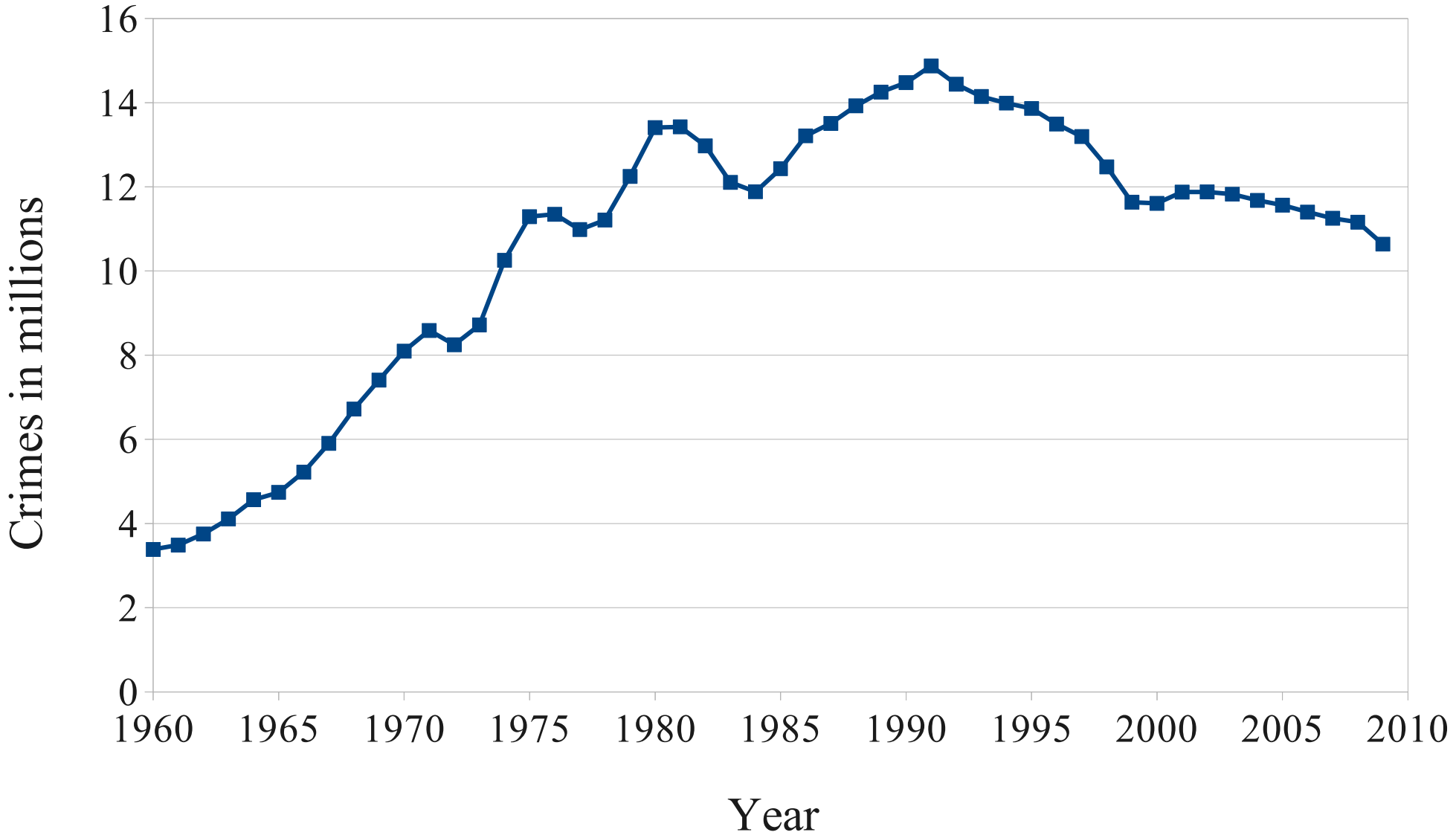
2009

CRIME CLOCK STATISTICS

Violent Crime	**23.9**	**seconds**
One Murder every	34.5	minutes
One Forcible Rape every	6.0	minutes
One Robbery every	1.3	minutes
One Aggravated Assault every	39.1	seconds
Property Crime	**3.4**	**seconds**
One Burglary every	14.3	seconds
One Larceny-theft every	5.0	seconds
One Motor Vehicle Theft every	39.7	seconds

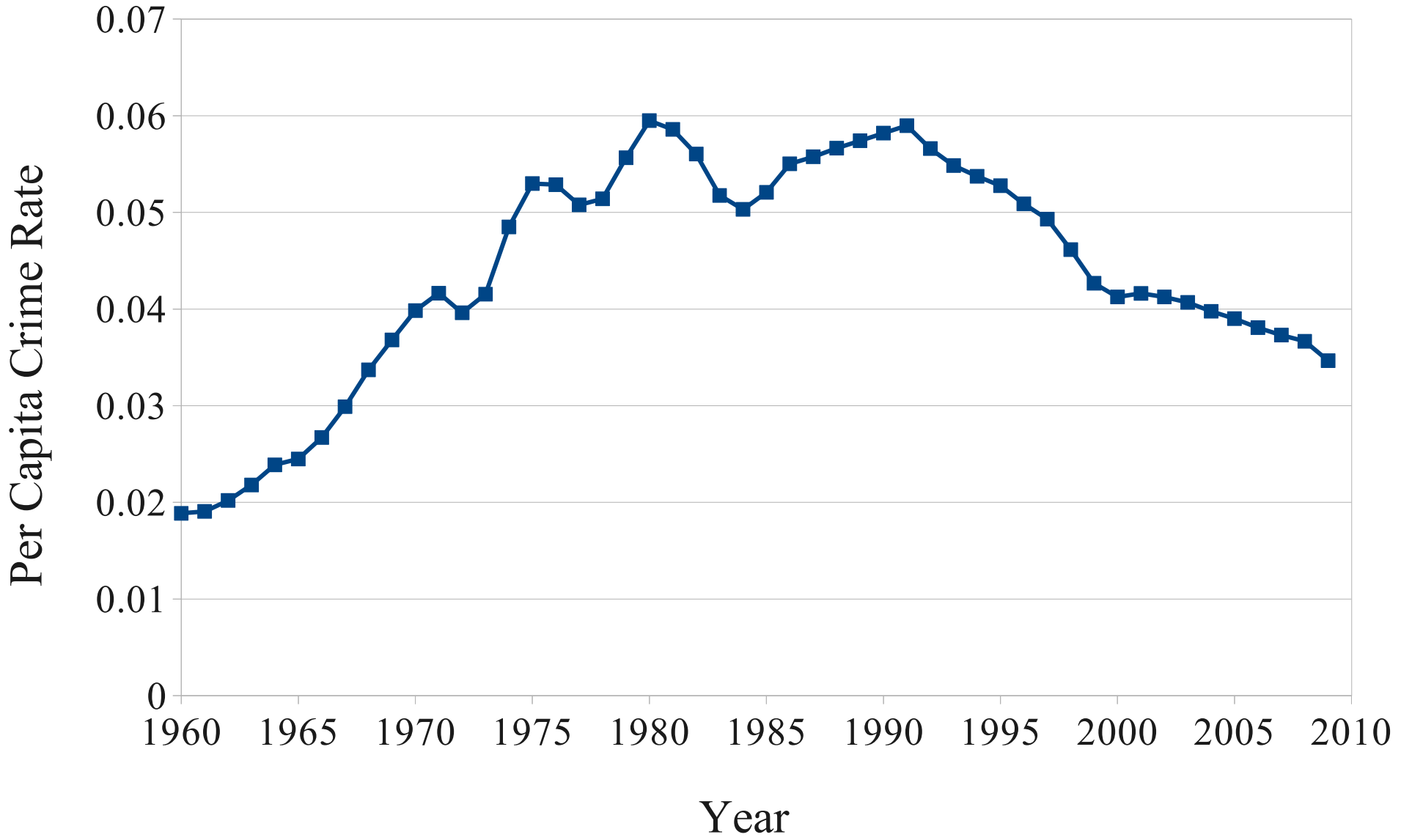
From FBI.gov

U.S. Crimes 1960-2009



From FBI.gov

Per Capita Crime Rate 1960-2009



From FBI.gov

http://www.wunderground.com/cgi-bin/findweather/getForecast?query=78705

On average are men taller than women?

Most statistical work can be done, and more easily done, by computer using programs such as:

MS Excel

Open Office

SPSS

SAS

Most statistical work can be done, and more easily done, by computer using programs such as:

MS Excel is the most common.

Available from UT for cheap, ~$30.

If you have not used it, start practicing now.

Most statistical work can be done, and more easily done, by computer using programs such as:

Open Office is a free alternative.

If you have not used it, start practicing now.

The Basics:
mean, median, and mode

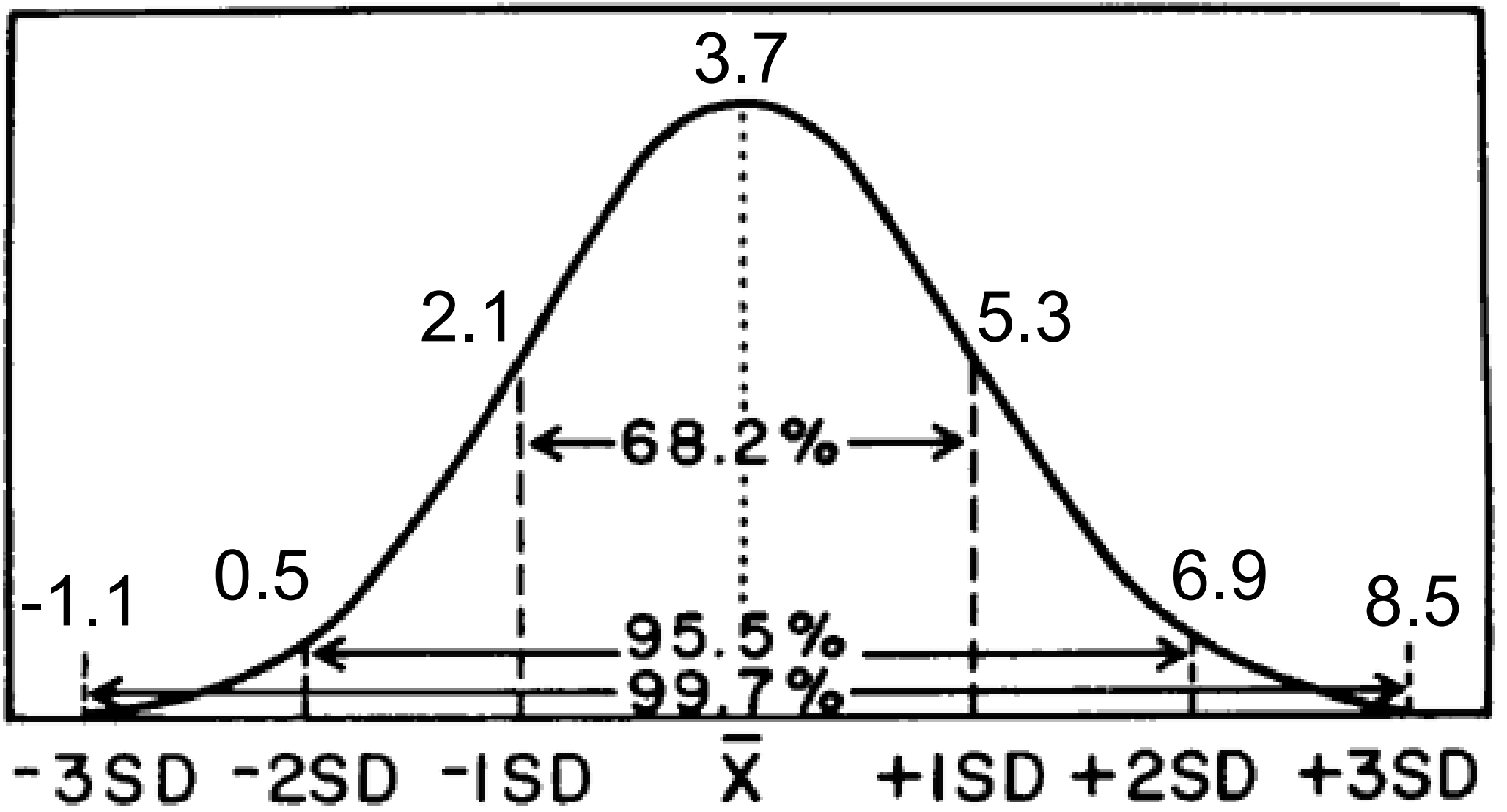
Is there a numerical way to determine the accuracy of our analysis?

2, 2, 2, 2, 2, 3, 3, 3, 4, 4, 5, 5, 5, 6, 7

Mean = 3.67 ±1.6

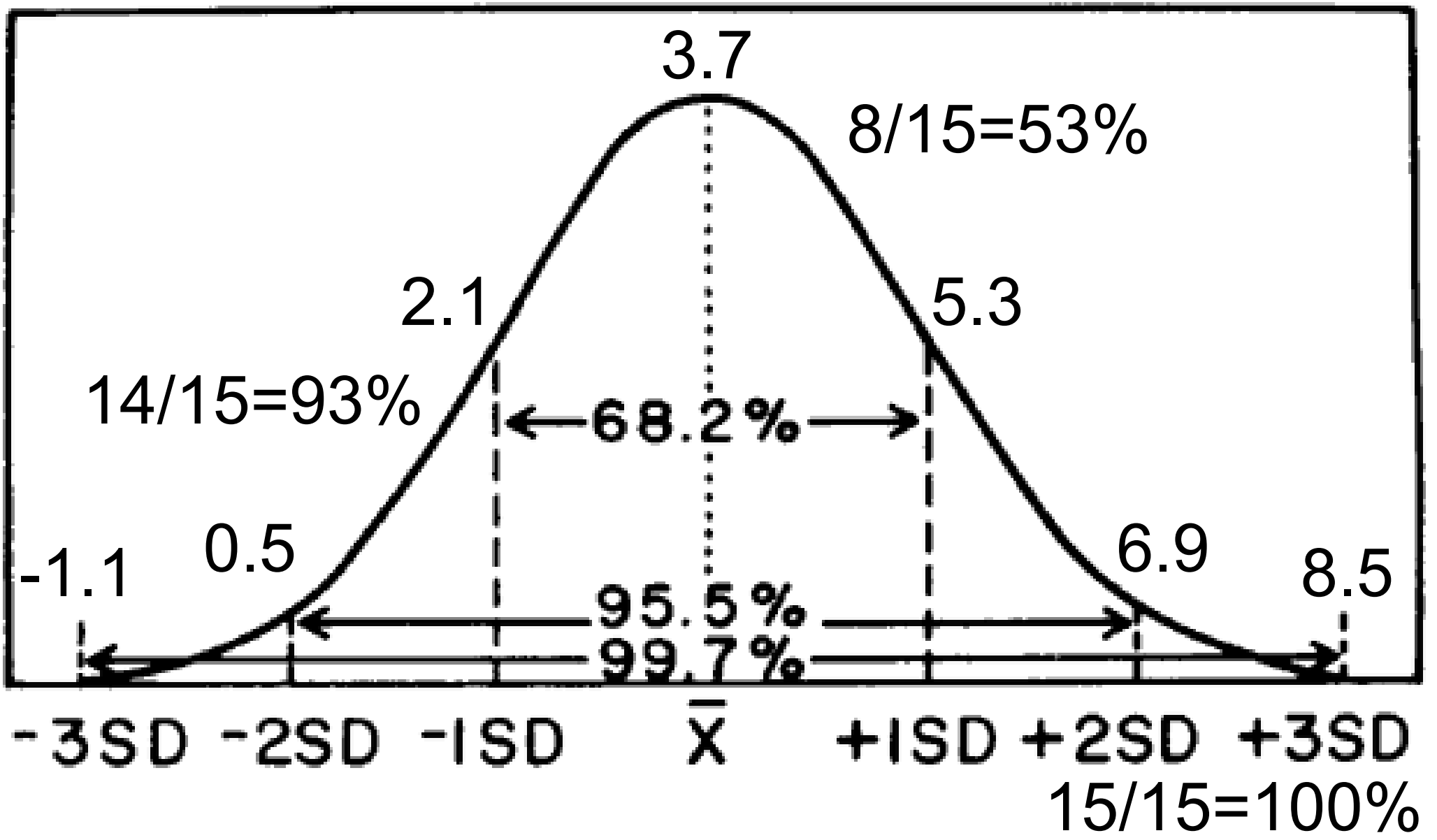
Standard deviation is a measure of variability.

Percent of data at 1, 2, or 3 standard deviations from the mean



http://www.westgard.com/lesson34.htm

2, 2, 2, 2, 2, 3, 3, 3, 4, 4, 5, 5, 5, 6, 7



http://www.westgard.com/lesson34.htm

How significant of a difference is this?

Set 1= 2, 2, 2, 2, 2, 3, 3, 3, 4, 4, 5, 5, 5, 6, 7

Mean = 3.67 ±1.6

And

Set 2= 8, 6, 7, 8, 9, 5, 6, 7, 9, 8, 9, 5

Mean = 7.25 ± 1.48

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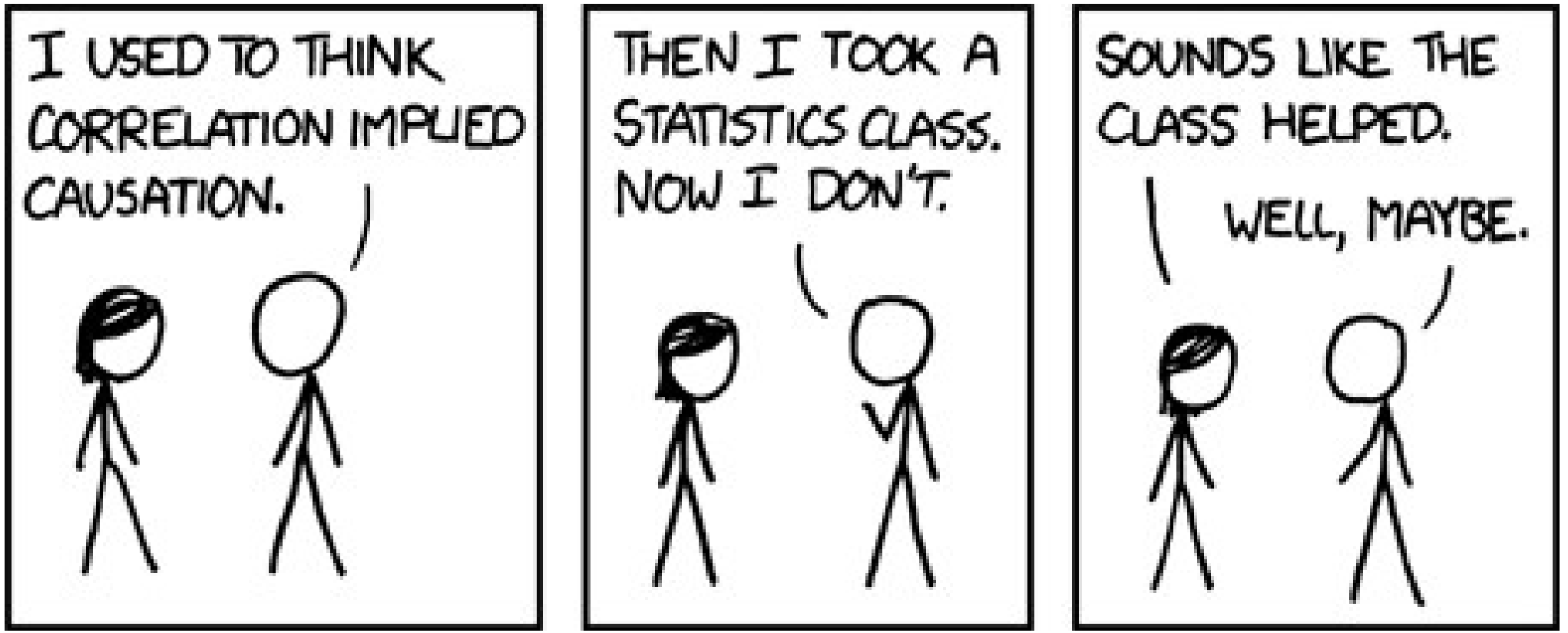

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