TUESDAY, FEBRUARY 20, 2018

Add to last week's warm-up

Warm-up

- Write the conclusions for the following confidence intervals:
  - Fred measured the lengths of 23 tropical flowers and with a 95% confidence level, he calculated a confidence interval of 26.341 ± 6.213 inches.

    I am 95% confident that the average length of tropical flowers is 26.341 ± 6.213 inches.
  - A chemist measured the amount of acetylsalicylic acid in tablets of aspirin and, using a 99% confidence level, calculated a confidence interval of 325.623 ± 2.216 cc's

    I am 99% confident that the mean cc's in aspirin is 325.623 ± 2.216.

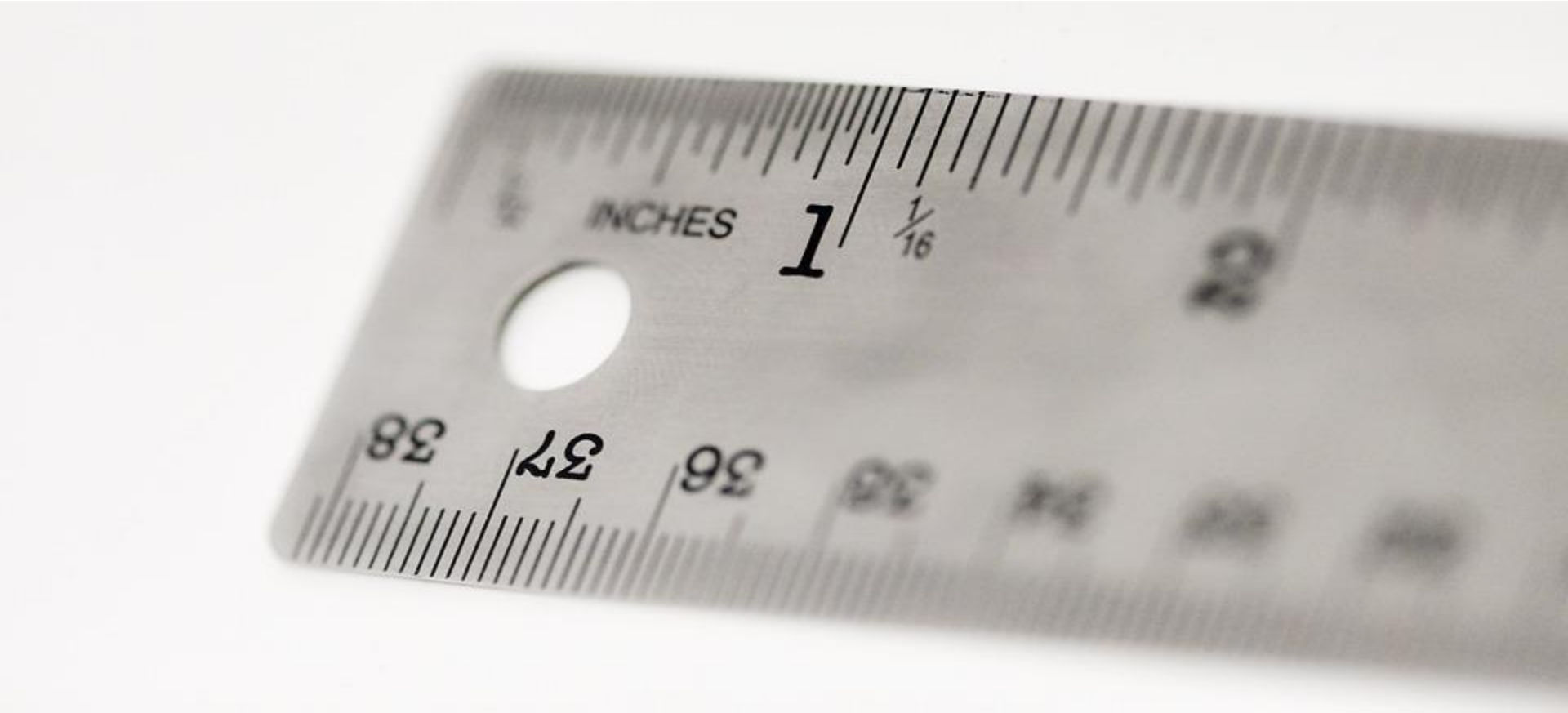
Discuss test results

Intro to Inference with means…

TALK ABOUT TESTS

CATAPULT LAB

Creating the confidence interval



CATAPULT LAB

Interpreting the confidence interval

GOSSET'S *T*

William S. Gosset, an employee of the Guinness Brewery in Dublin, Ireland, worked long and hard to find out what the sampling model was. Students' t

GOSSET'S *T*

The sampling model that Gosset found has been known as Student's *t*.

GOSSET'S *T*

The Student's *t*-models form a whole *family* of related distributions that depend on a parameter known as degrees of freedom.

- We often denote degrees of freedom as *df*, and the model as t_{df}.

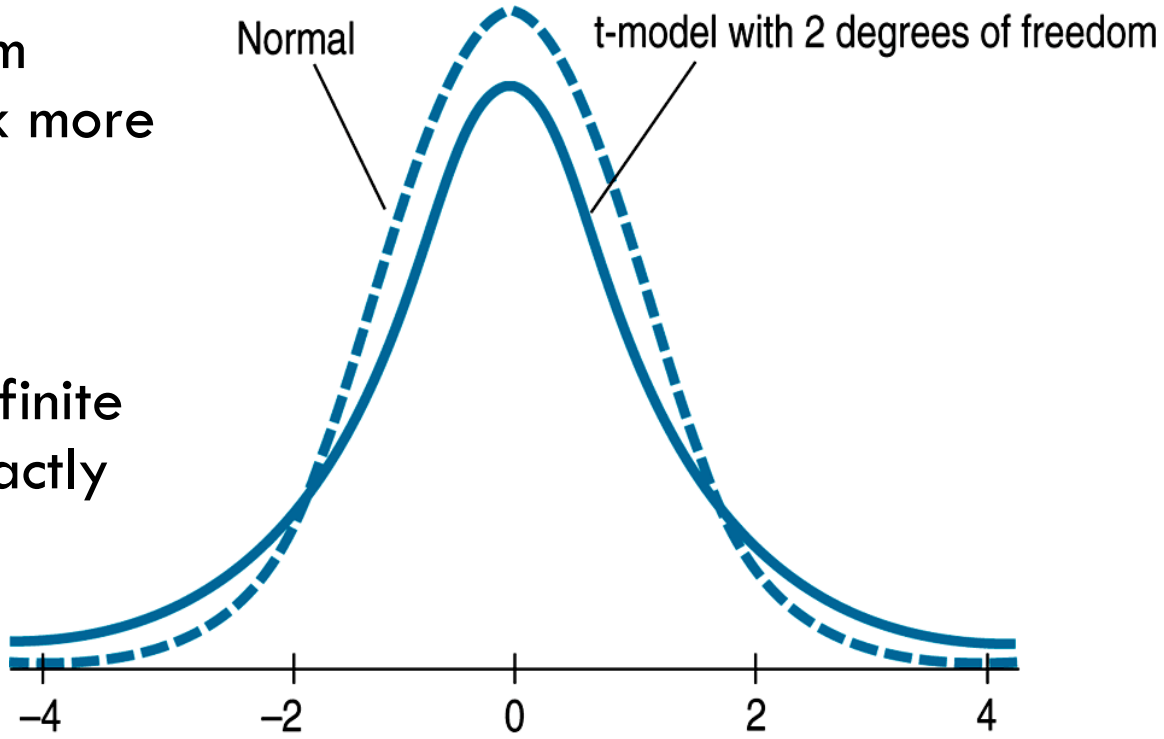
A QUICK EXPERIMENT

Compare z-distribution to t-distribution

A CONFIDENCE INTERVAL FOR MEANS?

As the degrees of freedom increase, the *t*-models look more and more like the Normal.

In fact, the *t*-model with infinite degrees of freedom is exactly Normal.



WHAT IS THIS DEGREE OF FREEDOM?

HOMEWORK

Read Chapter 23 – 5 big ideas