Inspiring Greatness

INDEPENDENCE SCHOOL DISTRICT

Math Virtual Learning

AP stats / Analyzing single Variable Review

April 29, 2020

Lesson: April 28, 2020

Objective/Learning Target:

Students will review the process of exploring and analyzing univariate data.

Review #1

In a random survey of 450 adults, 28 percent said that they felt that their credit card debt is too high. With what degree of confidence can the polster say that 28 ± 4 percent of adults believe that their credit card debt is too high?

Review #2

The school superintendent wants to know what percentage of property owners are willing to support an increase in school taxes. What size sample should be obtained to determine with 90 percent confidence support level to within 5 percent?

Answers

#1 $$\sigma_{\hat{p}} = \sqrt{\frac{(.28)(.72)}{450}} = 0.02117$$

Then, z(0.02117) = 0.04 gives z = 1.890

On calculator, press second vars and choose normalcdf, use lower bound -1.890 and upper bound 1.890 to obtain the answer ≈0.941

Answer

#2

Solving, $1.645(\sqrt{\frac{0.5(0.5)}{n}}) \leq 0.05$, gives us $n \geq 270.6$, so we round up and get n= 271. We choose to use p=0.5 because that maximizes the standard error. Any other choice of p results in a smaller standard error.

Analyzing One-Variable Data

We have spent a lot of time in statistical inference, but the AP test covers everything we learned this year!

Who remembers SOCS? How do we identify an outlier? What components are included in a numerical analysis?

The plan for the next several weeks is to review the material from previous chapters. Please watch the video linked below.

One Variable Analysis

Extra Practice

Now that you have had some time to review, you should give it a shot on your own. Attempt the Frappy below. When finished, use the answer key and the sample answers include with the key and try giving yourself a score.

Frappy

Answer key