Chapter 7 Notes

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Example 0.1

In each of the following statements, indentify the underlined numbeer as the value of the population parameter or a sample statistic.

a) IN a recent survey of young adults, 66% of millennials said they “always belived the world is round”

66% is a statistic, a survey is a sample.

b) A spokeperson for Google reported that the proportions of all people working for the company who were woman is 0.31

Parameter - p = % of population

c) The U.S. Dep

This is a summary of all bridges in the U.S, this is a parameter. μ = mean of population

d) The manager of a large hotel

statistic - $\bar{x}$= mean of sample

e)

statistic - $\hat{p}$ = % of sample

Question 1

during August, the hottest month of the year in Houston...

What is the probabilitiy that the sample mean rainfall is less than 3.3 in

We know the μ and σ, but not the shape

$$P(\bar{x} < 3.3)$$

The shape is approximatly normal, becuase n = 30

$$\sigma = \frac{1.1}{\sqrt{30}} = 0.2$$

$$P(\bar{x} < 3.3) = P(Z < \frac{3.3 - 3.54}{.2})$$
$$= P(z < -1.20) = .1151$$

What is the probability that the sample mean is greater than 3.9?

that is,

$$P(\bar{x} > 3.9)$$

Convert to Z,

$$P(Z > 3.9) = \frac{3.9 - 3.54}{.2} = 1.80$$
$$= .9641$$

Now we find whats to the right by subtracting 1.

$$1 - .9641$$
$$= .0359$$

Question 2

“ then this page cant be done we would not know sampling dist. of