Confidence Intervals for a Mean & Proportion · 1

A random sample of 400 gives a sample mean of 80 points for the score on a reading test. The population standard deviation is σ = 20 points. Find the 95% confidence interval for the population mean.

Confidence Intervals for a Mean & Proportion · 2

In a random sample of 100 customers, 90 would recommend the store. Find the 95% confidence interval for the proportion of all customers who would recommend the store.

Confidence Intervals for a Mean & Proportion · 3

How large a sample is needed to estimate a mean within E = 4 with 99% confidence, if σ = 15?

Confidence Intervals for a Mean & Proportion · 4

The sample size of a study is multiplied by 4, with everything else the same. The margin of error is multiplied by what number? (Give a fraction.)

Confidence Intervals for a Mean & Proportion · 5

In a random sample of 400 teens, 40 own a tablet. Find the margin of error for a 95% confidence interval for the proportion of all teens who own a tablet.

Confidence Intervals for a Mean & Proportion · 6

A random sample of 25 gives a sample mean of 41.2 hours for the battery life of a phone model. The population standard deviation is σ = 20 hours. Find the 90% confidence interval for the population mean.

Confidence Intervals for a Mean & Proportion · 7

A confidence interval for a mean is computed. If the sample size is increased from 100 to 400 (everything else the same), does the interval get wider or narrower?

Confidence Intervals for a Mean & Proportion · 8

A random sample of 144 gives a sample mean of 84.9 points for the score on a reading test. The population standard deviation is σ = 30 points. Find the 90% confidence interval for the population mean.

Confidence Intervals for a Mean & Proportion · 2

ANSWER

(0.841, 0.959)

Confidence Intervals for a Mean & Proportion · 1

ANSWER

(78.04, 81.96)

Confidence Intervals for a Mean & Proportion · 4

ANSWER

$$\frac{1}{2}$$

Confidence Intervals for a Mean & Proportion · 3

ANSWER

94

Confidence Intervals for a Mean & Proportion · 6

ANSWER

(34.62, 47.78)

Confidence Intervals for a Mean & Proportion · 5

ANSWER

0.029

Confidence Intervals for a Mean & Proportion · 8

ANSWER

(80.79, 89.01)

Confidence Intervals for a Mean & Proportion · 7

ANSWER

narrower

Confidence Intervals for a Mean & Proportion · 9

In a random sample of 100 teens, 90 own a tablet. Find the 90% confidence interval for the proportion of all teens who own a tablet.

Confidence Intervals for a Mean & Proportion · 10

How large a sample is needed to estimate a mean within E = 4 with 99% confidence, if σ = 20?

Confidence Intervals for a Mean & Proportion · 11

In a random sample of 1600 drivers, 1280 use a navigation app. Find the margin of error for a 95% confidence interval for the proportion of all drivers who use a navigation app.

Confidence Intervals for a Mean & Proportion · 12

A random sample of 36 gives a sample mean of 25.8 centimeters for the height of sunflowers. The population standard deviation is σ = 6 centimeters. Find the 95% confidence interval for the population mean.

Confidence Intervals for a Mean & Proportion · 13

A confidence interval for a mean is computed. If the sample size is decreased from 400 to 100 (everything else the same), does the interval get wider or narrower?

Confidence Intervals for a Mean & Proportion · 14

A random sample of 25 gives a sample mean of 29.5 inches for the length of a fish species. The population standard deviation is σ = 10 inches. Find the 90% confidence interval for the population mean.

Confidence Intervals for a Mean & Proportion · 15

In a random sample of 400 customers, 360 would recommend the store. Find the 95% confidence interval for the proportion of all customers who would recommend the store.

Confidence Intervals for a Mean & Proportion · 16

How large a sample is needed to estimate a mean within E = 1 with 90% confidence, if σ = 12?

Confidence Intervals for a Mean & Proportion · 10

ANSWER

166

Confidence Intervals for a Mean & Proportion · 9

ANSWER

(0.851, 0.949)

Confidence Intervals for a Mean & Proportion · 12

ANSWER

(23.84, 27.76)

Confidence Intervals for a Mean & Proportion · 11

ANSWER

0.02

Confidence Intervals for a Mean & Proportion · 14

ANSWER

(26.21, 32.79)

Confidence Intervals for a Mean & Proportion · 13

ANSWER

wider

Confidence Intervals for a Mean & Proportion · 16

ANSWER

390

Confidence Intervals for a Mean & Proportion · 15

ANSWER

(0.871, 0.929)

Confidence Intervals for a Mean & Proportion · 17

The sample size of a study is multiplied by 9, with everything else the same. The margin of error is multiplied by what number? (Give a fraction.)

Confidence Intervals for a Mean & Proportion · 18

In a random sample of 1600 drivers, 800 use a navigation app. Find the margin of error for a 99% confidence interval for the proportion of all drivers who use a navigation app.

Confidence Intervals for a Mean & Proportion · 19

A random sample of 36 gives a sample mean of 51.3 minutes for the commute time of workers. The population standard deviation is $\sigma = 9$ minutes. Find the 95% confidence interval for the population mean.

Confidence Intervals for a Mean & Proportion · 20

A confidence interval for a mean is computed. If the confidence level is lowered from 99% to 95% (everything else the same), does the interval get wider or narrower?

Confidence Intervals for a Mean & Proportion · 21

A random sample of 225 gives a sample mean of 64.6 hours for the battery life of a phone model. The population standard deviation is $\sigma = 22.5$ hours. Find the 95% confidence interval for the population mean.

Confidence Intervals for a Mean & Proportion · 22

In a random sample of 400 students, 200 walk to school. Find the 95% confidence interval for the proportion of all students who walk to school.

Confidence Intervals for a Mean & Proportion · 23

How large a sample is needed to estimate a mean within $E = 3$ with 95% confidence, if $\sigma = 6$?

Confidence Intervals for a Mean & Proportion · 24

The sample size of a study is multiplied by 25, with everything else the same. The margin of error is multiplied by what number? (Give a fraction.)

Confidence Intervals for a Mean & Proportion · 18

ANSWER

0.032

Confidence Intervals for a Mean & Proportion · 17

ANSWER

$$\frac{1}{3}$$

Confidence Intervals for a Mean & Proportion · 20

ANSWER

narrower

Confidence Intervals for a Mean & Proportion · 19

ANSWER

(48.36, 54.24)

Confidence Intervals for a Mean & Proportion · 22

ANSWER

(0.451, 0.549)

Confidence Intervals for a Mean & Proportion · 21

ANSWER

(61.66, 67.54)

Confidence Intervals for a Mean & Proportion · 24

ANSWER

$$\frac{1}{5}$$

Confidence Intervals for a Mean & Proportion · 23

ANSWER

16