Confidence Intervals for a Mean & Proportion · 1

A random sample of 81 gives a sample mean of 88.4 centimeters for the height of sunflowers. The population standard deviation is σ = 13.5 centimeters. Find the 99% confidence interval for the population mean.

Confidence Intervals for a Mean & Proportion · 2

In a random sample of 400 drivers, 360 use a navigation app. Find the margin of error for a 90% confidence interval for the proportion of all drivers who use a navigation app.

Confidence Intervals for a Mean & Proportion · 3

In a random sample of 1600 drivers, 320 use a navigation app. Find the 90% confidence interval for the proportion of all drivers who use a navigation app.

Confidence Intervals for a Mean & Proportion · 4

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 · 5

How large a sample is needed to estimate a mean within E = 5 with 95% confidence, if σ = 10?

Confidence Intervals for a Mean & Proportion · 6

A random sample of 100 gives a sample mean of 66.1 points for the score on a reading test. The population standard deviation is σ = 10 points. Find the margin of error for a 99% confidence interval for the mean.

Confidence Intervals for a Mean & Proportion · 7

A 95% confidence interval for the mean of the battery life of a phone model is (22.2, 30.8) hours. Find the margin of error.

Confidence Intervals for a Mean & Proportion · 8

A random sample of 400 gives a sample mean of 68.4 hours for the battery life of a phone model. The population standard deviation is σ = 20 hours. Find the 95% confidence interval for the population mean.

Confidence Intervals for a Mean & Proportion · 2

ANSWER

0.025

Confidence Intervals for a Mean & Proportion · 1

ANSWER

(84.54, 92.26)

Confidence Intervals for a Mean & Proportion · 4

ANSWER

narrower

Confidence Intervals for a Mean & Proportion · 3

ANSWER

(0.184, 0.216)

Confidence Intervals for a Mean & Proportion · 6

ANSWER

2.58

Confidence Intervals for a Mean & Proportion · 5

ANSWER

16

Confidence Intervals for a Mean & Proportion · 8

ANSWER

(66.44, 70.36)

Confidence Intervals for a Mean & Proportion · 7

ANSWER

4.3

Confidence Intervals for a Mean & Proportion · 9

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 · 10

In a random sample of 400 drivers, 80 use a navigation app. Find the 90% confidence interval for the proportion of all drivers who use a navigation app.

Confidence Intervals for a Mean & Proportion · 11

How large a sample is needed to estimate a mean within E = 1 with 95% confidence, if σ = 6?

Confidence Intervals for a Mean & Proportion · 12

A random sample of 100 gives a sample mean of 16.8 points for the score on a reading test. The population standard deviation is σ = 30 points. Find the margin of error for a 99% confidence interval for the mean.

Confidence Intervals for a Mean & Proportion · 13

A 95% confidence interval for the mean of the score on a reading test is (24.5, 32.1) points. Find the sample mean.

Confidence Intervals for a Mean & Proportion · 14

A random sample of 64 gives a sample mean of 31.2 ounces for the weight of bags of rice. The population standard deviation is σ = 32 ounces. Find the 95% confidence interval for the population mean.

Confidence Intervals for a Mean & Proportion · 15

In a random sample of 2500 adults, 1250 exercise at least three times a week. Find the 90% confidence interval for the proportion of all adults who exercise at least three times a week.

Confidence Intervals for a Mean & Proportion · 16

How large a sample is needed to estimate a mean within E = 4 with 95% confidence, if σ = 8?

Confidence Intervals for a Mean & Proportion · 10

ANSWER

(0.167, 0.233)

Confidence Intervals for a Mean & Proportion · 9

ANSWER

0.029

Confidence Intervals for a Mean & Proportion · 12

ANSWER

7.73

Confidence Intervals for a Mean & Proportion · 11

ANSWER

139

Confidence Intervals for a Mean & Proportion · 14

ANSWER

(23.36, 39.04)

Confidence Intervals for a Mean & Proportion · 13

ANSWER

28.3

Confidence Intervals for a Mean & Proportion · 16

ANSWER

16

Confidence Intervals for a Mean & Proportion · 15

ANSWER

(0.484, 0.516)

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.)

In a random sample of 400 drivers, 320 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.

A random sample of 81 gives a sample mean of 75.9 points for the score on a reading test. The population standard deviation is $\sigma = 22.5$ points. Find the 99% confidence interval for the population mean.

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?

A random sample of 16 gives a sample mean of 40.1 minutes for the commute time of workers. The population standard deviation is $\sigma = 8$ minutes. Find the 90% confidence interval for the population mean.

In a random sample of 400 adults, 40 exercise at least three times a week. Find the margin of error for a 99% confidence interval for the proportion of all adults who exercise at least three times a week.

In a random sample of 100 teens, 50 own a tablet. Find the 90% confidence interval for the proportion of all teens who own a tablet.

How large a sample is needed to estimate a mean within $E = 1$ with 90% confidence, if $\sigma = 20$?

Confidence Intervals for a Mean & Proportion · 18

ANSWER

0.039

Confidence Intervals for a Mean & Proportion · 17

ANSWER

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

Confidence Intervals for a Mean & Proportion · 20

ANSWER

wider

Confidence Intervals for a Mean & Proportion · 19

ANSWER

(69.46, 82.34)

Confidence Intervals for a Mean & Proportion · 22

ANSWER

0.039

Confidence Intervals for a Mean & Proportion · 21

ANSWER

(36.81, 43.39)

Confidence Intervals for a Mean & Proportion · 24

ANSWER

1083

Confidence Intervals for a Mean & Proportion · 23

ANSWER

(0.418, 0.582)