A Company surveys 32 randomly selected employees and ask the number spent working at home after hours during a week. The results as shown below:

|  |  |  |  |
| --- | --- | --- | --- |
| 10 | 5 | 0 | 8 |
| 0 | 3 | 4 | 4 |
| 2 | 3 | 8 | 1 |
| 4 | 1 | 7 | 5 |
| 7 | 6 | 2 | 1 |
| 0 | 5 | 7 | 5 |
| 10 | 5 | 3 | 6 |
| 6 | 2 | 2 | 3 |

Using Excel, construct a 90% confidence interval for the mean hours worked.

90% confidence interval: \_\_\_\_\_\_\_\_\_\_ +/- \_\_\_\_\_\_\_\_

Round your final answer to two decimal places.

The weights (in ounces) of 12 randomly sampled cakes as shown in the table below.

|  |  |  |  |
| --- | --- | --- | --- |
| 17 | 10 | 15 | 14 |
| 16 | 12 | 16 | 13 |
| 20 | 11 | 17 | 18 |

Using Excel, constructed a 98% confidence interval using a t-distribution for the mean weight.

98% confidence interval: \_\_\_\_\_\_\_\_\_+/- \_\_\_\_\_\_\_\_\_\_

Round your final answer to two decimal places.

In a survey of 942 musicians, 715 said they began playing an instrument while in elementary school.

Using Excel, construct a 90% confidence interval for the proportion of the musicians who began playing an instrument while in elementary school.

90% confidence interval: \_\_\_\_\_\_\_\_\_ +/- \_\_\_\_\_\_\_\_\_\_

Round your final answer to two decimal places.

A restaurant wants to estimate the average number of customer who ask for refills on coffee. They want to be within 5 of the true mean when using a confidence interval of 99%. The standard deviation is estimated at 30.

How many customers must they sample?

Customers: \_\_\_\_\_\_

Round your answer up to a whole number, if needed.

A community wants to estimate the proportion of residents who are pet owners. They want to be within 8% of the true proportion when using a confidence interval of 90%.

How many residents must be sampled if no preliminary estimate is available?

Remember when calculation a sample size, we need to round up to the next whole number (not to the closest whole number) if needed.

Residents: \_\_\_\_\_\_\_

Round your answer up to a whole number, if needed.

t- Distribution chart



Chi-square Distribution

