

What is the sample size needed to accurately calculate the mean?

Authored by
stats writer

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The sample size needed to accurately calculate the mean refers to the number of observations or data points that must be included in a sample in order to accurately estimate the average or mean of a larger population. A larger sample size generally leads to a more precise and representative estimate of the population mean. The determination of the appropriate sample size depends on various factors such as the desired level of accuracy, the variability of the population, and the confidence level desired. In general, a larger sample size is recommended to obtain a more reliable estimate of the population mean.

Sample Size Calculator for a Mean

```
@import
```

```
url('https://fonts.googleapis.com/css?family=Droid+Serif|Raleway');
```

```
.axis-y .domain {  
display: none;  
}
```

```
h1 {  
color: black;  
text-align: center;  
margin-top: 15px;  
margin-bottom: 0px;  
font-family: 'Raleway', sans-serif;  
}
```

```
h2 {  
color: black;
```

```
font-size: 20px;  
text-align: center;  
margin-bottom: 15px;  
margin-top: 15px;  
font-family: 'Raleway', sans-serif;  
}
```

```
p {  
color: black;  
text-align: center;  
margin-bottom: 15px;  
margin-top: 15px;  
font-family: 'Raleway', sans-serif;  
}
```

```
#words_intro {  
color: black;  
font-family: Raleway;  
max-width: 550px;  
margin: 25px auto;  
line-height: 1.75;  
}
```

```
#words_intro_center {  
text-align: center;
```

```
color: black;  
font-family: Raleway;  
max-width: 550px;  
margin: 25px auto;  
line-height: 1.75;  
}
```

```
#words_outro {  
color: black;  
font-family: Raleway;  
max-width: 550px;  
margin: 25px auto;  
line-height: 1.75;  
}
```

```
#words {  
color: black;  
font-family: Raleway;  
max-width: 550px;  
margin: 25px auto;  
line-height: 1.75;  
padding-left: 100px;  
}
```

```
#calcTitle {
```

```
text-align: center;  
font-size: 20px;  
margin-bottom: 0px;  
font-family: 'Raleway', serif;  
}
```

```
#hr_top {  
width: 30%;  
margin-bottom: 0px;  
margin-top: 10px;  
border: none;  
height: 2px;  
color: black;  
background-color: black;  
}
```

```
#hr_bottom {  
width: 30%;  
margin-top: 15px;  
border: none;  
height: 2px;  
color: black;  
background-color: black;  
}
```

```
.input_label_calc {  
display: inline-block;  
vertical-align: baseline;  
width: 350px;  
}
```

```
#button_calc {  
border: 1px solid;  
border-radius: 10px;  
margin-top: 20px;  
padding: 10px 10px;  
cursor: pointer;  
outline: none;  
background-color: white;  
color: black;  
font-family: 'Work Sans', sans-serif;  
border: 1px solid grey;  
/* Green */  
}
```

```
#button_calc:hover {  
background-color: #f6f6f6;  
border: 1px solid black;  
}
```

```
.label_radio {
text-align: center;
}
```

The sample size required to estimate a population mean with a certain level of confidence and a desired margin of error is calculated as: $\text{Sample size} = (z_{\alpha/2} \sigma / E)^2$ where: $z_{\alpha/2}$: The z critical value E : The desired margin of error σ : The population standard deviation To find the sample size required to estimate a population mean, simply fill in the boxes below and then click the "Calculate" button.

Sample Size: 35

```
function calc() {
//get input values
var z = document.getElementById('z').value*1;
var s = document.getElementById('s').value*1;
var E = document.getElementById('E').value*1;

//find number of bins
var n =
Math.ceil(Math.pow((Math.abs(jStat.normal.inv((1-z)/2, 0,
1))*s/E), 2));
```

//output

```
document.getElementById('n').innerHTML = n;  
}
```

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