

Find required sample size

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On this page we will see a number of situations with related questions. In each case, this page will give the answers to those questions. Your task is to find those same answers by inspecting the given information and/or by using a calculator or computer to produce those desired values.

Case 1:

We want to take a sample from a population that we know has a standard deviation of 10.73. From the mean of that sample we want to generate a 86.0% confidence interval with a margin of error no bigger than 5.2. (1) What is the smallest sample size that we can use to obtain that result? (**Answer=10**)

Case 2:

We want to take a sample from a population that we know has a standard deviation of 12.13. From the mean of that sample we want to generate a 88.0% confidence interval with a margin of error no bigger than 4.5. (2) What is the smallest sample size that we can use to obtain that result? (**Answer=18**)

Case 3:

We want to take a sample from a population that we know has a standard deviation of 13.99. From the mean of that sample we want to generate a 78.0% confidence interval with a margin of error no bigger than 6.0. (3) What is the smallest sample size that we can use to obtain that result? (**Answer=9**)

Case 4:

We want to take a sample from a population that we know has a standard deviation of 7.78. From the mean of that sample we want to generate a 78.0% confidence interval with a margin of error no bigger than 2.5. (4) What is the smallest sample size that we can use to obtain that result? (**Answer=15**)

Case 5:

We want to take a sample from a population that we know has a standard deviation of 25.51. From the mean of that sample we want to generate a 94.0% confidence interval with a margin of error no bigger than 8.6. (5) What is the smallest sample size that we can use to obtain that result? (**Answer=32**)

Case 6:

We want to take a sample from a population that we know has a standard deviation of 37.79. From the mean of that sample we want to generate a 94.0% confidence interval with a margin of error no bigger than 8.0. (6) What is the smallest sample size that we can use to obtain that result? (**Answer=79**)

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