# Примеры задач для зачета

1. You have several samples with a mean value of 100 and a standard deviation of 10. The amount of sampling N varies in the range (5..20). Calculate the left and right limits of the 99% CI and plot them against N in the same diagram.
2. Suppose M is a random variable described by the standard normal distribution. The probability that M falls within the range (-1…z) is 60%. Find the probability that M is larger than z.
3. The concentration of a substance in a vial should be 10 g/l. You make the quality control test with the significance level α=0,01 and analyze a sample of 10 vials. The mean concentration in your sample is X=12 g/l, the standard deviation is 1,7 g/l. Do you have evidence that the mean concentration is different from the expected value (YES/NO)? What it the p-value?