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## Statistics for laboratory scientists

### Solutions for the homework problems for lecture 17

1.

a. In R, do the following:

```
C <- qt(0.975, 23) # critical value
se <- 15*sqrt(1/15 + 1/10) # true standard error of the mean
difference
1 - pt(C, df=23, ncp=10/se) + pt(-C, df=23, ncp=10/se)
```

The answer: **Power = 34.7%**

b. 

```
C <- qt(0.975, 23) # critical value
se <- 15*sqrt(1/15 + 1/10) # true standard error of the mean
difference
1 - pt(C, df=23, ncp=20/se) + pt(-C, df=23, ncp=20/se)
```

The answer: **Power = 87.8%**

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[ [3rd term syllabus](#) | [4rd term syllabus](#) | [R for Windows](#) ]

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