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```r
if(!require(pwr)){
  install.packages("pwr", repos="http://ftp.heanet.ie/mirrors/cran.r-project.org/")
}
require(pwr)

# What is the power of a one-tailed t-test, with a
# significance level of 0.01, 25 people in each group,
# and an effect size equal to 0.75?

pwr.t.test(n=25,d=0.75,sig.level=.01,alternative="greater")
cat("</br></br>"

# Using a two-tailed test proportions, and assuming a
# significance level of 0.01 and a common sample size of
# 30 for each proportion, what effect size can be detected
# with a power of .75?

pwr.2p.test(n=30,sig.level=0.01,power=0.75)
cat("</br></br>"

# For a one-way ANOVA comparing 5 groups, calculate the
# sample size needed in each group to obtain a power of
# 0.80, when the effect size is moderate (0.25) and a
# significance level of 0.05 is employed.

pwr.anova.test(k=5,f=.25,sig.level=.05,power=.8)
cat("</br></br>"

# Examples borrowed from:
### http://www.statmethods.net/stats/power.html
### You can also look at:
### http://www.ats.ucla.edu/stat/R/dae/t_test_power.htm
```
sig.level = 0.01
power = 0.5988572
alternative = greater

NOTE: n is number in *each* group

Difference of proportion power calculation for binomial distribution (arcsine transformation)

h = 0.8392269
n = 30
sig.level = 0.01
power = 0.75
alternative = two.sided

NOTE: same sample sizes

Balanced one-way analysis of variance power calculation

k = 5
n = 39.1534
f = 0.25
sig.level = 0.05
power = 0.8

NOTE: n is number in each group