1. If Z is norm (mean = 0, sd = 1)

Find P(Z > 2.64)

Find P(|Z| > 1.39)

dnorm(z, mean = 0, sd = 1)

pnorm(2.64, lower.tail = FALSE)

2 \* pnorm(-1.39)

2. Suppose p = the proportion of students who are admitted to the graduate school of the University of California at Berkeley, and suppose that a public relation officer boasts that UCB has historically had a 40% acceptance rate for its graduate school. Consider the data stored in the table UCB Admissions from 1973. Assuming these observations constituted a simple random sample, are they consistent with the officerâ..s claim, or do they provide evidence that the acceptance rate was significantly less than 40%? Use an Î± = 0.01 significance level.

> -qnorm(0.99)

[1] -2.326348

> A <- as.data.frame(UCBAdmissions)

> head(A)

Admit Gender Dept Freq 1 Admitted Male A 512 2 Rejected Male A 313 3 Admitted Female A 89 4 Rejected Female A 19 5 Admitted Male B 353 6 Rejected Male B 207

> xtabs(Freq ~ Admit, data = A)

Admit

Admitted Rejected 1755 2771

> phat <- 1755/(1755 + 2771)

> (phat - 0.4)/sqrt(0.4 \* 0.6/(1755 + 2771))

[1] -1.680919