1. Calculate the P Value for the test in Problem 2

> pnorm(-1.680919) [1] 0.04638932.

2. How do you test the proportions and compare against hypothetical props? Test Hypothesis: proportion of automatic cars is 40%.

data(mtcars)

mtcars$am <- as.factor(mtcars$am)

levels(mtcars$am) <- c("Automatic", "Manual")

par(mfrow = c(1, 2))

*# Histogram with Normal Curve*

x <- mtcars$mpg

h<-hist(x, breaks=10, col="red", xlab="Miles Per Gallon",

main="Histogram of Miles per Gallon")

xfit<-seq(min(x),max(x),length=40)

yfit<-dnorm(xfit,mean=mean(x),sd=sd(x))

yfit <- yfit\*diff(h$mids[1:2])\*length(x)

lines(xfit, yfit, col="blue", lwd=2)

*# Kernel Density Plot*

d <- density(mtcars$mpg)

plot(d, xlab = "MPG", main ="Density Plot of MPG")

boxplot(mpg~am, data = mtcars,

col = c("dark grey", "light grey"),

xlab = "Transmission",

ylab = "Miles per Gallon",

main = "MPG by Transmission Type")

aggregate(mpg~am, data = mtcars, mean)

autoData <- mtcars[mtcars$am == "Automatic",]

manualData <- mtcars[mtcars$am == "Manual",]

t.test(autoData$mpg, manualData$mpg)