## Car Horsepower and Gas Mileage II

- 1. The cars appear to be independent as no car make was used twice and they were all of different makes and models.
- 2. No non-linearity was detected as the residual plot does not exhibit a distinct curvature (Figure 1-Left).
- 3. The residual plot does show a very slight heteroscedasticity (Figure 1-Left). This is likely no enough to worry about.
- 4. The Anderson-Darling test shows weak but insignificant evidence for non-normality (p = 0.0784) and the histogram of residuals is approximately symmetric (Figure 1-Right).
- 5. There are no significant outliers according to the outlier test (p = 0.4334). There is also no evidence for any outliers on the histogram of residuals (Figure 1-Right).

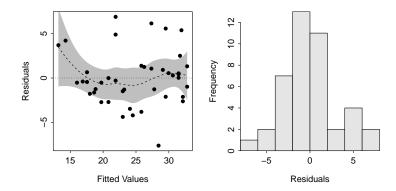


Figure 1. Residual plot (Left) and histogram of residuals (Right) for the simple linear regression of car mpg on car horespower.

## R Appendix

```
library(NCStats)
setwd("c:/biometry/")
car <- read.csv("CarMPG.csv")
lm1 <- lm(mpg~hp,data=car)
residPlot(lm1)
fitPlot(lm1)</pre>
```