

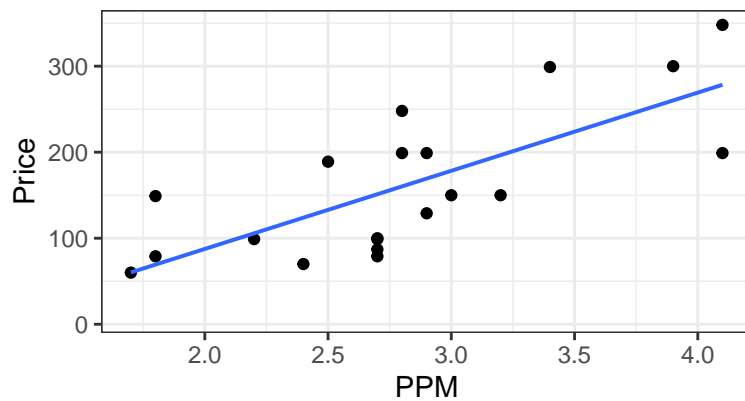
Stat 243 – QuickCheck

Richmond Yevudza

April 06, 2022

1

```
gf_point(Price ~ PPM, data = InkjetPrinters) %>% gf_lm()
```



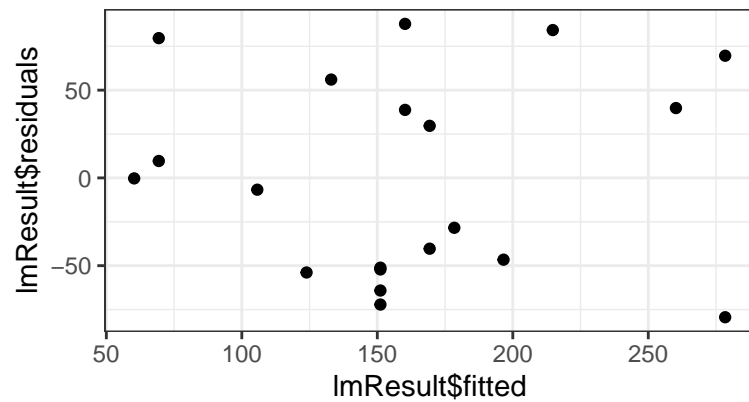
2

```
lm(Price ~ PPM, data = InkjetPrinters)
```

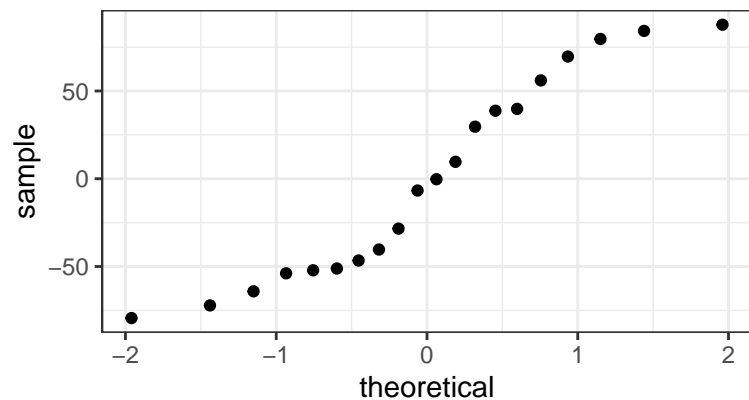
```
##  
## Call:  
## lm(formula = Price ~ PPM, data = InkjetPrinters)  
##  
## Coefficients:  
## (Intercept)          PPM  
##      -94.22         90.88  
Equation => y = 90.88x - 94.22
```

3

```
lmResult <- lm(formula = Price ~ PPM, data = InkjetPrinters)  
gf_point(lmResult$residuals ~ lmResult$fitted)
```



```
gf_qq(~lmResult$residuals)
```



4

```
summary(lm(Price ~ PPM, data = InkjetPrinters))
```

```
##
## Call:
## lm(formula = Price ~ PPM, data = InkjetPrinters)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -79.38 -51.40  -3.49   43.85   87.76
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)   -94.22     56.40  -1.671  0.112086
## PPM             90.88     19.49   4.663  0.000193 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 58.55 on 18 degrees of freedom
## Multiple R-squared:  0.5471, Adjusted R-squared:  0.522
## F-statistic: 21.75 on 1 and 18 DF, p-value: 0.0001934
```

5

```
summary(lm(Price ~ PPM, data = InkjetPrinters))

##
## Call:
## lm(formula = Price ~ PPM, data = InkjetPrinters)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -79.38 -51.40  -3.49   43.85   87.76
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)   -94.22     56.40  -1.671  0.112086
## PPM             90.88     19.49   4.663  0.000193 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 58.55 on 18 degrees of freedom
## Multiple R-squared:  0.5471, Adjusted R-squared:  0.522
## F-statistic: 21.75 on 1 and 18 DF,  p-value: 0.0001934
```

6

```
nrow(InkjetPrinters)

## [1] 20

tstar <- qt(0.96, df=18)
lm(Price ~ PPM, data = InkjetPrinters)$coefficients[2] + c(-1,1) * tstar * 19.49

## [1] 54.71749 127.03864
```