

# 14\_1\_3\_Residuals Normal?

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To find the least-squares regression model, use the `lm()` command. From that result, we can find the standard error.

We will use the cholesterol data from Section 14.1, Table 1.

```
Age <- c(25, 25, 28, 32, 32, 32, 38, 42, 48, 51, 51, 58, 62, 65)
Total_Cholesterol <- c(180, 195, 186, 180, 210, 197, 239, 183, 204, 221, 243, 208, 228, 269)
```

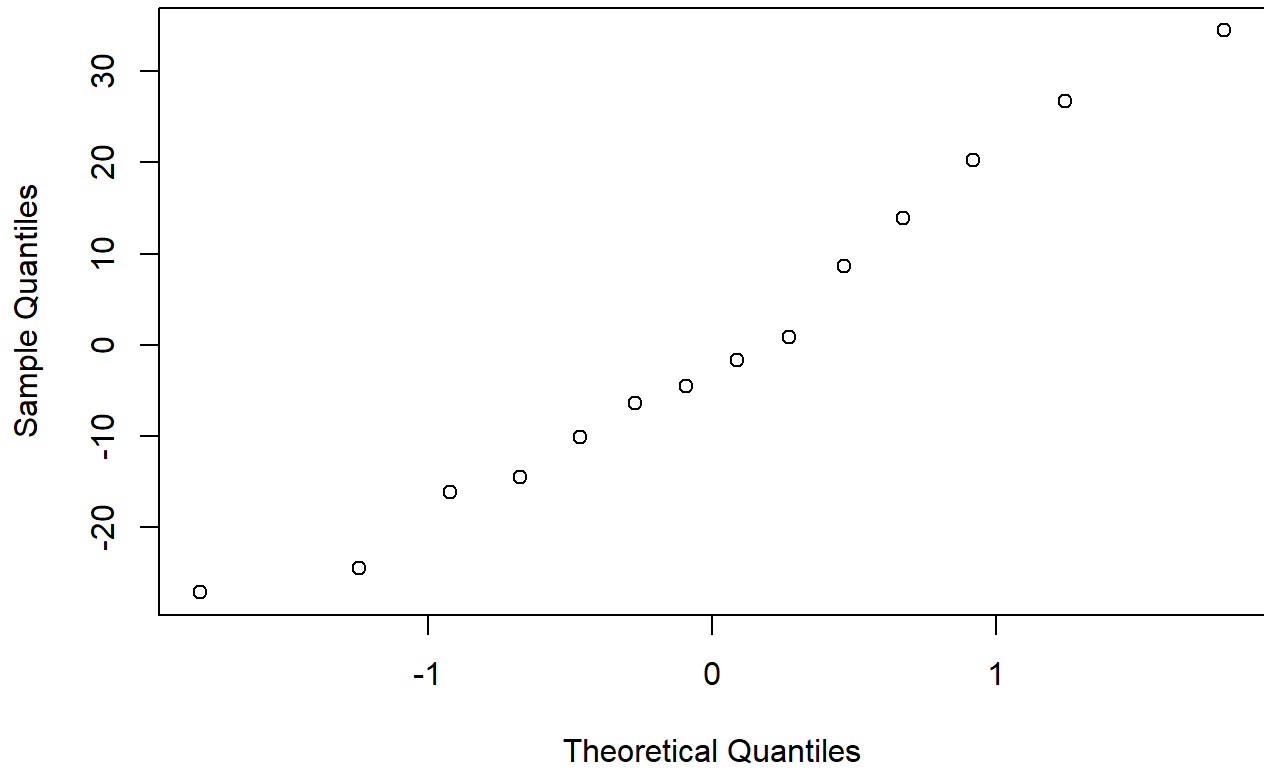
Find the least-squares regression model and save it as an object.

```
lm_object <- lm(Total_Cholesterol ~ Age)
```

To draw a QQ-plot (that is, a normal probability plot), use the `qqnorm()` command. We will save this as an object called `q_val` so we can find the correlation statistic.

```
q_val <- qqnorm(lm_object$residuals)
```

## Normal Q-Q Plot



```
cor(q_val$x, q_val$y)  
## [1] 0.9873451
```

The correlation between the residuals (x) and expected z-scores (y) is 0.987.