Goodness of Fit by Pearsonian χ^2

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A six faced die is thrown 300 times and the results obtained are as follows:

Face	1	2	3	4	5	6
Frequency	31	52	46	40	54	77

Use the data to test whether the die is unbiased.

```
df1 <- data.frame(face = 1:6, frequency = c(31, 52, 46, 40, 54, 77))
```

```
df1
```

```
##   face frequency
## 1    1        31
## 2    2        52
## 3    3        46
## 4    4        40
## 5    5        54
## 6    6        77
```

```
test <- chisq.test(df1$frequency)
```

```
test
```

```
##
##  Chi-squared test for given probabilities
##
## data:  df1$frequency
## X-squared = 24.52, df = 5, p-value = 0.0001724
```

```
test$statistic
```

```
## X-squared
##     24.52
```

```
test$parameter

## df
##  5
```

```
test$p.value

## [1] 0.0001724381
```

```
test$method

## [1] "Chi-squared test for given probabilities"
```

```
test$observed

## [1] 31 52 46 40 54 77
```

```
test$expected

## [1] 50 50 50 50 50 50
```

```
test$residuals

## [1] -2.6870058  0.2828427 -0.5656854 -1.4142136  0.5656854  3.8183766
```