

Six-sided die

Confidence intervals

Different kinds of confidence intervals for proportions. "wilson" is the best.

```
library(binom)
#x <- rbinom(60,1,1/6)
success <- 4 #sum(x)
b <- binom.confint(success, 60, conf.level = 0.95, methods = c("exact", "asymptotic",
"wilson"))
b
```

```
##      method x  n      mean      lower      upper
## 1 asymptotic 4 60 0.06666667 0.00354983 0.1297835
## 2      exact 4 60 0.06666667 0.01846178 0.1619868
## 3      wilson 4 60 0.06666667 0.02622870 0.1592536
```

```
1/6 > b$lower & 1/6 < b$upper
```

```
## [1] FALSE FALSE FALSE
```

Plots of confidence intervals

```
library(Hmisc)
```

```
## Loading required package: lattice
```

```
## Loading required package: survival
```

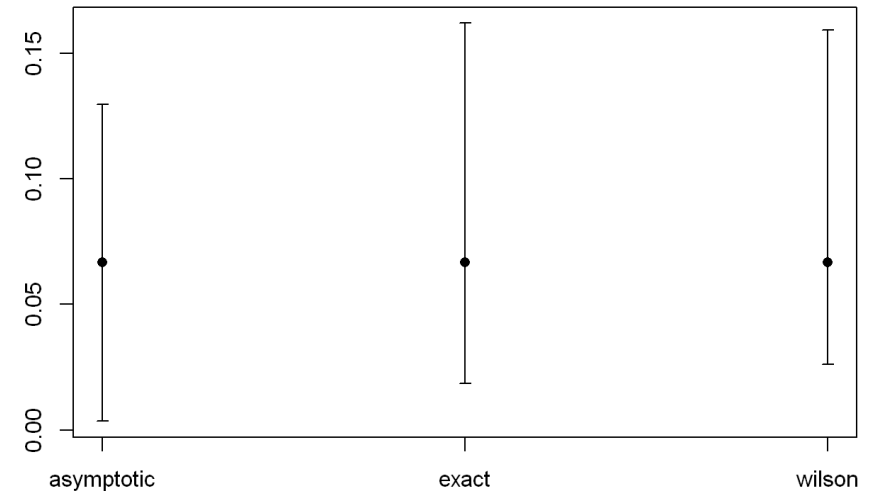
```
## Loading required package: Formula
```

```
## Loading required package: ggplot2
```

```
##
## Attaching package: 'Hmisc'
```

```
## The following objects are masked from 'package:base':
##
##      format.pval, units
```

```
errbar(1:3, b$mean, b$upper, b$lower, xaxt = "n", xlab = "", ylab = "")
axis(1, at=1:3, labels=c("asymptotic", "exact", "wilson"))
```



Chi-square test

Results of Chi-square test.

```
#x <- floor(runif(60,0,5.999999999999999))+1
#tt <- table(x)
#summary(x)
tt <- c(11,12,8,14,11,4)
chi <- chisq.test(tt, p = c(1/6, 1/6, 1/6, 1/6, 1/6, 1/6))
chi
```

```
##
## Chi-squared test for given probabilities
##
## data: tt
## X-squared = 6.2, df = 5, p-value = 0.2872
```