1.8

二项近似检验: 假设

$$H_0 : p = 0.147 \backslash \mathrm{H}_1 : p \neq 0.147$$

```
x=prop.test(57,400,p=0.147)
print(x)
```

result:

```
1-sample proportions test with continuity correction

data:  57 out of 400, null probability 0.147
X-squared = 0.033695, df = 1, p-value = 0.8544
alternative hypothesis: true p is not equal to 0.147
95 percent confidence interval:
 0.1105235 0.1815235
sample estimates:
     p
0.1425
```

p-value = 0.8544 >0.05接受假设 结果支持看法

1.9

二项近似检验: 假设

$$H_0 : \text{比例相同} \backslash \mathrm{H}_1 : \text{比例不同}$$

```
f <- matrix(c(320,1206,1011,463,220,1742,5638,3904,1555,626), nrow = 2,  byrow =
T)
# print(f)
rownames(f)<- c("x","t")
f.x<-f["x",]
f.t<-f["t",]
# print(f.x)
k=prop.test(f.x,f.t)
print(k)
```

result:

```
5-sample test for equality of proportions without continuity correction

data:  f.x out of f.t
```

```
X-squared = 130.34, df = 4, p-value < 2.2e-16<<0.05
拒绝原假设。比例不同

### 1.10
须去掉无变化和不知道的人数
利用符号检验


alternative hypothesis: two.sided
sample estimates:
   prop 1    prop 2    prop 3    prop 4    prop 5
0.1836969 0.2139056 0.2589652 0.2977492 0.3514377
```

p-value < 2.2e-16<<0.05 拒绝原假设。比例不同

1.10

须去掉无变化和不知道的人数 利用符号检验,$\alpha = 0.1$ 假设

$$H_0$$：比例相同$\backslash \mathrm{H}_1$：比例不同

```
o = binom.test(720,1520,al='l',conf.level = 0.9)
print(o)
```

result

```
data:  720 and 1520
number of successes = 720, number of trials = 1520, p-value = 0.02135
alternative hypothesis: true probability of success is less than 0.5
90 percent confidence interval:
 0.0000000 0.4904438
sample estimates:
probability of success
             0.4736842
```

p-value = 0.02135<0.1,推翻假设，比例不同

因此可以认为认为更好的比更差的人多

1.15

假设

$$H_0$$：符合假设$\backslash \mathrm{H}_1$：不符合假设

```
l=chisq.test(c(315,101,108,32),p=c(9,3,3,1)/16)
print(l)
```

RESULT

```
Chi-squared test for given probabilities

data:  c(315, 101, 108, 32)
X-squared = 0.47002, df = 3, p-value = 0.9254
```

p-value = 0.9254>0.05 接受假设，符合假设