In [2]:

```
# 연습문제 10 p214
from scipy.stats import chi2

df = [4, 19, 25]
p = [0.99, 0.025, 0.045]
c = [37.652]

x = chi2.ppf(1 - p[0], df[0])
print(f"P(X^2 > Xa^2) : {round((x), 3)}")

x = chi2.ppf(1 - p[1], df[1])
print(f"P(X^2 > Xa^2) : {round((x), 3)}")

# 3번 연산
# x = 1 - abs(chi2.cdf(p[2], df[2]) - chi2.cdf(c[0], df[2]))
# print(f"\nP({c[0]}(X0.05^2) < X^2 < Xa^2) : {round((x), 4)}")

Xa2 = chi2.ppf(1 - p[2], df[2])
P = chi2.cdf(Xa2, df[2]) - chi2.cdf(c[0], df[2])

print(f'P({c} < X^2 < {Xa2:.3f}) = {P:.3f}')
```

```
P(X^2 > Xa^2) : 0.297
P(X^2 > Xa^2) : 32.852
```