

# Hypothesis Testing

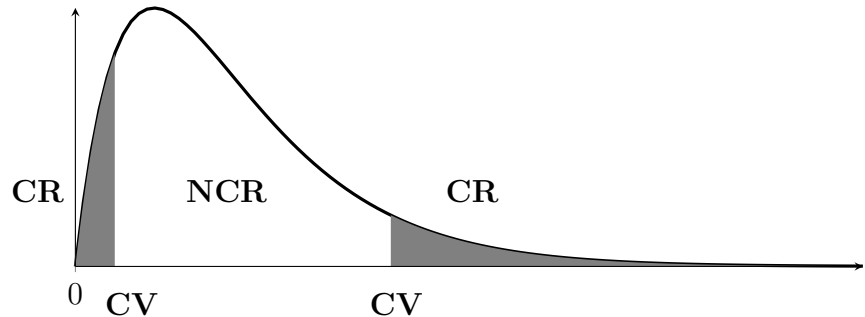
## One Population Standard Deviation

---

### Two-Tail Test:

$$H_0 : \sigma = \sigma_0$$

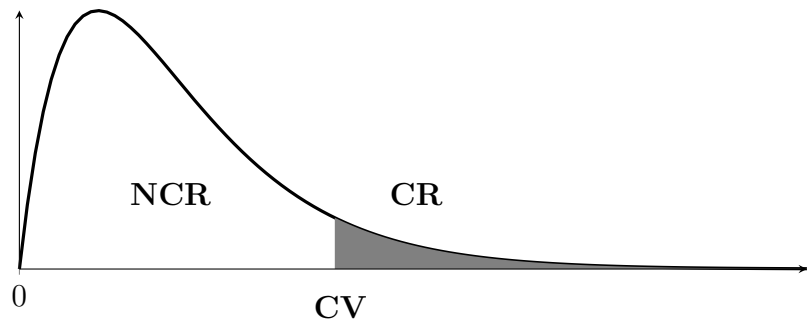
$$H_1 : \sigma \neq \sigma_0$$



### Right-Tail Test:

$$H_0 : \sigma \leq \sigma_0$$

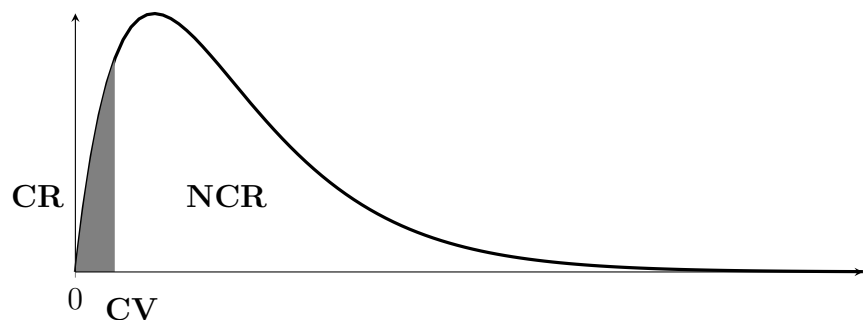
$$H_1 : \sigma > \sigma_0$$



### Left-Tail Test:

$$H_0 : \sigma \geq \sigma_0$$

$$H_1 : \sigma < \sigma_0$$



### Critical Value(s):

- Using TI program X2VAL with  $df = n - 1$ : PRGM > X2VAL > ENTER (Twice)
- 

### Computed Test Statistic & P-Value:

- Using TI program S2Test: PRGM > S2Test > ENTER (Twice)

- Using formula for C.T.S.: 
$$\chi^2 = \frac{(n - 1)s^2}{\sigma^2}$$

- Using TI option  $\chi^2cdf$ ( for P-Value: 2ND > VARS >  $\chi^2cdf$ ( > ENTER
-