➢ A **point estimator** is a _____ that provides _____ of a population _____.

Ideally, a point estimate is our _____ at the value of an unknown parameter.

- **an ideal point estimator：** _____ & _____

➢ Confidence interval

- **Confidence interval** for a population characteristic is an interval of plausible values for the characteristic.
- Degree of confidence
- **FRQ:** We are C% confident that the interval from xxxxxx to xxxxxx captures the _____ of the [population parameter in context]

parameter	p	μ
Point estimator		
Confidence interval		

■ What is the 90% confidence interval?

90% of sample means will fall into the interval _____

_____

- Construct a CI

  For example, a 90% confidence interval for $\bar{X}$ with sample size n is _____

  Generally, the confidence interval is:

_____ ± _____ • (standard deviation of _____)

Critical value：

Margin of error (ME):

- Properties of Confidence Intervals:
  - The user chooses the confidence level, and the margin of error follows from this choice.
  - The critical value depends on the _____ and the sampling distribution of the _____
    - Greater confidence requires a _____ critical value
    - The standard deviation of the statistic depends on _____
- Conditions of Using Confidence Intervals

  (1) Random

  (2) Normal

  (3) 10% condition

9.11 The formula used to compute a large-sample confidence interval for p *is*

$$\hat{p} \pm (z \text{ critical value})\sqrt{\frac{\hat{p}(1-\hat{p})}{n}}$$

What is the appropriate z critical value for each of the following confidence levels?

a. 95%
b. 90%
c. 99%
d. 80%
e. 85%

9.13 Discuss how each of the following factors affects the width of the confidence interval for p:

a. The confidence level
b. The sample size
c. The value of $\hat{p}$