1. **Standard deviation of the sample mean** ​≈ 1.41
2. If a population is normally distributed, the sampling distribution of the sample mean is **normal** for any sample size.
3. The mean of the sampling distribution of the sample mean = **75** (equal to population mean).
4. **Central Limit Theorem** states that the sampling distribution of the sample mean approaches a normal distribution as the sample size increases.
5. If sample size increases, **standard error of the mean decreases**.
6. A sample mean used to estimate a population mean is a **point estimate**.
7. Standard error of sample mean = 3.
8. Mean of the sampling distribution of sample variance = **36**.
9. **1.96** is the critical z-score value for a 95% confidence interval.
10. If sample variance is an unbiased estimator, it estimates **population variance**.
11. **Simple random sampling** ensures each individual has an equal chance of selection.
12. The point estimate in (25, 35) confidence interval = **30** (midpoint).
13. Standard error of the mean = 2.
14. Confidence interval = 50±3 → **(47, 53)**.
15. If sample size increases, **confidence interval width decreases**.
16. Probability of a sample mean within one standard deviation of population mean = **68.27%**.
17. 95% confidence interval = (146.08,153.92).
18. **Interval estimate** provides a range where the population parameter is expected to lie.
19. **Stratified sampling** divides a population into subgroups and selects randomly from each.
20. Expected value of sample mean = **200** (equal to population mean).
21. Variance of the sampling distribution of sample mean = 1.96.
22. If sample size increases, **variability of sample mean decreases**.
23. Standard deviation of a sample with variance 25 = **5**.
24. **Central Limit Theorem** is useful for approximating the sample mean distribution for large sample sizes.
25. **t-distribution** is used when population variance is unknown.
26. Standard error of variance = 2.67.
27. If sample size increases, probability that sample mean is close to population mean **increases**.
28. Probability that a sample mean differs from the population mean due to sampling = **standard error**.
29. Margin of error for t-distribution (95%) = 4.13.
30. Variance of sampling distribution of mean = 2.
31. Example of a point estimate: **Sample mean**.
32. Provides a range where population parameter lies: **Confidence interval**.
33. Point estimate for (45, 55) = **50**.
34. Factors affecting confidence interval width: **All of the above** (Sample size, Confidence level, Population variance).
35. Method to estimate population mean: **Point estimation**.
36. Confidence interval: 100±5 → **(95, 105)**.
37. A wider confidence interval means **less precision**.
38. Narrowest confidence interval: **80% confidence level**.
39. If sample size increases, confidence interval width **decreases**.
40. Margin of error in an interval estimate: **The range of error allowed**.