ASSIGNMENT-3

If μ= 55, σ_{4a}= 4, $\sigma_{4\beta}$=10, σ_4 =c 15, In this which is better

Given:

Mean (μ) = 55

σ_a = 4

σ_β = 10

σc = 15

Since the mean is the same (55) for all three cases, the only difference is the standard deviation, which measures how much the data varies from the mean.

Understanding Standard Deviation

Small σ → Data values are very close to the mean → More consistency → More reliability

Large σ → Data values are widely spread → Less consistency → More variability

Comparison

1.σ_a = 4

Very small spread

Most values lie close to 55

More uniform performance

Best consistency

2. σ_β = 10

Moderate spread

Values moderately scattered around 55

3. σc = 15

Large spread

Values widely scattered

Least consistent

Conclusion

Since all have the same mean (55), the distribution with the smallest standard deviation is better.

4 < 10 < 15

$\sigma_a = 4$ is the best, because it shows the least variation and highest consistency around the mean.