



Department of Education, Sabaragamuwa/weekly school

week- 3

Subject-Business Statistics

Grade-13

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**Competency 7.0 – Uses Statistical inference for making business decisions.**

**Competency Level 7.3 – Builds up of sampling distributions of the difference between two sampling means for statistical inference.**

- The probability distribution of the values that can be taken by the difference of the means of all the possible independent samples drawn in random from two populations is known as the sampling distribution of the difference between two sample means.

### **Exercises**

- 1.) Population – A            4,8,12  
Population – B            2,4,6

- How many samples with size two can be drawn from each population without replacement.
- How many samples with size two can be drawn from each population with replacement.

- 2.) The mean and standard deviation of the weight of the boys in a school are 48kg and 5kg respectively. The mean and standard deviation of the weight of the girls in the same school are 45 kg and 8kg respectively.

(a.) If the weight of the boys and girls is assumed to be distributed normally,

- Find the probability of the mean weight of 25 boys being 4.5kg greater than the mean weight of 16 girls.
- Find the probability of the mean weight of 49 boys being 4.5kg greater than the mean weight of 64 girls.