

99. Suppose  $\bar{X}_1$  and  $\bar{X}_2$  are the means of two independent samples of size  $n$  from a population with a finite variance  $\sigma^2$ . Find a value of  $n$  such that  $P(|\bar{X}_1 - \bar{X}_2| < \sigma/5) \approx 0.99$ . You may use  $R$  to find values.