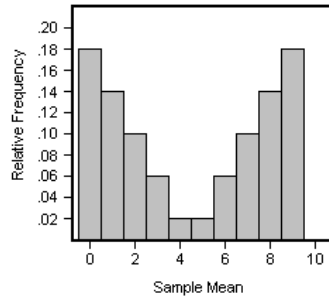


Math 263
Quiz 3

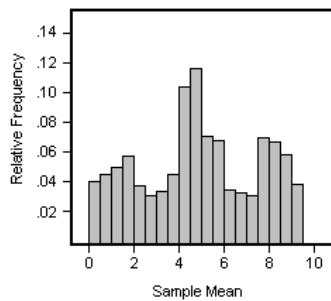
Name _____

A population has the distribution shown:¹

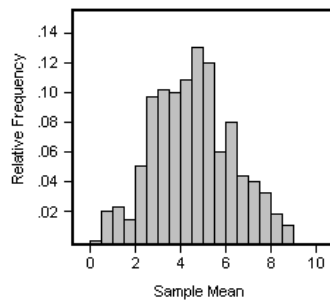


- (a) The distribution of three sets of samples, each of a fixed sample size, drawn from this population are shown in I-III. Match each one with the correct sample size, mean and standard deviation.

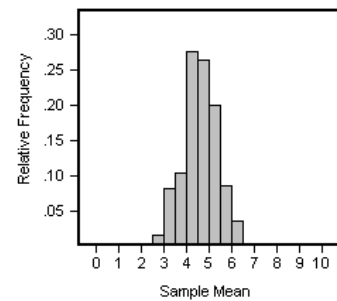
I.



II



III



Sample sizes: 2, 4, 25

Mean and Standard Deviation: 4.39 and 1.84; 4.53 and 0.70; 4.47 and 2.39
(These are in pairs, μ and σ . Each pair goes with one sample size.)

Sampling distribution I has $n =$ _____ and $\mu_{\bar{x}} =$ _____, $\sigma_{\bar{x}} =$ _____

Sampling distribution II has $n =$ _____ and $\mu_{\bar{x}} =$ _____, $\sigma_{\bar{x}} =$ _____

Sampling distribution III has $n =$ _____ and $\mu_{\bar{x}} =$ _____, $\sigma_{\bar{x}} =$ _____

- (b) For which sample sizes is it reasonable to assume that 95% of the sample means are within $2\sigma_{\bar{x}}$ of the population mean? Why?

- (c) Why are the means of I-III not equal?

¹ From *Statistics in Action* by Ann Watkins, et al. (Key Curriculum, 2004)