

2. You draw a random sample of size $n = 64$ from a population with mean $\mu = 50$ and standard deviation $\sigma = 16$. From this, you compute the sample mean, \bar{X} .

(a) What are the expectation and standard deviation of \bar{X} ?

(b) Approximately what is the probability that the sample mean is above 54?

(c) Do you need any additional assumptions for part (c) to be true?

3. You draw a random sample of size $n = 16$ from a population with mean $\mu = 100$ and standard deviation $\sigma = 20$. From this, you compute the sample mean, \bar{X} .

(a) What are the expectation and standard deviation of \bar{X} ?

(b) Approximately what is the probability that the sample mean is between 95 and 105?

(c) Do you need any additional assumptions for part (c) to be true?