

Chapter7

1- A report announced that the sample mean sale of the new houses sold in a city is \$423,500 whereas the population mean price for the same is \$420,000 and the standard deviation of the price \$28,000.

** The probability that the sample mean will be within $\pm\$3500$ of the population mean for a sample of 50 is .
(Round to four decimal places as needed.)

2-Given a normal distribution with $\mu=101$ and $\sigma=25$, and given you select a sample of $n=25$, complete parts (a) through (d).

(a). What is the probability that \bar{X} is less than 95?

$$P(\bar{X} < 95) = \text{$$

(Type an integer or decimal rounded to four decimal places as needed.)

b. What is the probability that \bar{X} is between 95 and 96.5?

$$P(95 < \bar{X} < 96.5) = \text{$$

(Type an integer or decimal rounded to four decimal places as needed.)

c. What is the probability that \bar{X} is above 102?

$$P(\bar{X} > 102) = \text{$$

(Type an integer or decimal rounded to four decimal places as needed.)

d. There is a 61% chance that X is above what value?

$$X = \text{$$

(Type an integer or decimal rounded to two decimal places as needed.)

3- A quality department of a manufacturing firm draws a sample of 100 from the population. The population is believed to be have 40% of the products defective. What is the probability that the sample proportion will have less than or equal to 30% defective products?

-The probability that the sample proportion will contain less than or equal to 30%

defective items is

(Round to four decimal places as needed.)

4- In a random sample of 64 people, 32 are classified as "successful."

a. Determine the sample proportion, p , of "successful" people.

$$p = \text{$$

(Round to two decimal places as needed.)

b. If the population proportion is 0.65, determine the standard error of the proportion.

$$\sigma_p = \text{$$

(Round to four decimal places as needed.)

5- A random sample of 76 households was selected for a phone survey. The key question asked was, "Do you or any member of your household own a product from Company A?" Of the 76 respondents, 38 said yes and 38 said no.

a. Determine the sample proportion, p , of households that own a Company A product.

$$p = \boxed{}$$

(Round to two decimal places as needed.)

b. If the population proportion is 0.75, determine the standard error of the proportion.

$$\sigma_p = \boxed{}$$

(Round to four decimal places as needed.)

6-A survey found that 31% of consumers from a Country A are more likely to buy stock in a company based in Country A, or shop at its stores, if it is making an effort to publicly talk about how it is becoming more sustainable. Suppose you select a sample of 200 respondents from Country A. Complete parts (a) through (d) below.

a. What is the probability that in the sample, fewer than 31% are more likely to buy stock in a company based in Country A, or shop at its stores, if it is making an effort to publicly talk about how it is becoming more sustainable?

The probability is $\boxed{}$

(Round to two decimal places as needed.)

b. What is the probability that in the sample, between 27% and 35% are more likely to buy stock in a company based in Country A, or shop at its stores, if it is making an effort to publicly talk about how it is becoming more sustainable?

The probability is $\boxed{}$

(Round to two decimal places as needed.)

c. What is the probability that in the sample, more than 27% are more likely to buy stock in a company based in Country A, or shop at its stores, if it is making an effort to publicly talk about how it is becoming more sustainable?

The probability is $\boxed{}$

(Round to two decimal places as needed.)
