

1. Write a frequency distribution of the following data. (See p. 297) 2 4 6 8 2 10

x	f	Relative Frequency

2. For the same data above, make a population probability distribution.
(See p. 297 for an example of a population probability distribution.)

x	P(x)

3. Calculate μ and σ for the probability distribution. (Use your calculator)

4. Choose 5 values from the data set 2, 4, 6, 8, 2, 10 and write them in the spaces below. (Do this three times – parts a, b, and c)

a. Values; _____, _____, _____, _____, _____

i. Calculate the mean, \bar{x} , and the standard deviation s. (Use your calculator LIST or x1= etc.)

b. Values; _____, _____, _____, _____, _____

ii Calculate the mean, \bar{x} , and the standard deviation s. (Use your calculator LIST or x1= etc.)

c. Values; _____, _____, _____, _____, _____

iii. Calculate the mean, \bar{x} , and the standard deviation s. (Use your calculator LIST or x1= etc.)

5. Are any of the \bar{x} values from #4 the same?

7.1 – 7.3

6. Calculate the total number of possible samples of size 5 from the data set 2, 4, 6, 8, 2, 10. (see p. 207 green box)

7. Make a table of all possible samples of 5 numbers and their means (see p. 298-299 for an example).

Samples	\bar{x} (sample means)

8. Make a relative frequency distribution of \bar{x} for samples of size 5.

\bar{x}	f	Rel. Freq.

9. A) Make a sampling distribution of \bar{x} for samples of size 5. (see p. 299)

\bar{x}	$P(\bar{x})$

B) Calculate the mean, μ , of the sampling distribution of \bar{x} (the table to the right). Use your calculator and general probability formulas from chapter 5

C) Calculate the standard deviation, σ , of the sampling distribution of \bar{x} . Use your calculator and the general probability formula from chapter 5

7.1 – 7.3

10. Compare the mean and standard deviation from #3 and #9. Are they the same? If not, what is the difference?

11. Write the formula for the mean of the sampling distribution of \bar{x} . (See p. 303)

12. There are two formulas for the standard deviation of \bar{x} . What are they and under what conditions do you use each? (Read ALL of p. 303)

13. Use the formulas you found in questions 11 and 12 to calculate the mean of the sampling distribution of \bar{x} and the standard deviation of the sampling distribution of \bar{x} . (use the mean and standard deviation values from #3 in the formulas)

14. What is meant by sampling error? (Use your book p. 299)

15. Calculate the *sampling error* for the mean, μ , using the means from questions 3 and 7.

16. Give an example of non-sampling error. (Use your book)