

1 point deducted if you do not circle the class time

Questions 1-3 refer to the following;

A statistics instructor was interested in the amount of time De Anza College Math 10 students spent studying Statistics during the week of the second midterm exam. She surveyed a sample of De Anza College Math 10 students to find out how long they studied statistics during the week of the second midterm exam.

1. [4.5 points] For each situation below, fill in the appropriate sampling method from the list shown:

cluster stratified systematic simple random convenience

a) The sample was selected by randomly selecting six Fall 2018 Math 10 classes and including every student in each of the six selected classes.

Sampling Method: cluster

b) The sample was selected by contacting every 12th student on a list of all students enrolled in Fall 2018 Math 10 classes.

Sampling Method: systematic

c) 8 students were randomly selected from each Fall 2018 Math 10 class.

Sampling Method: stratified

2. [3 points] In parts (a) and (b), fill in the blank by selecting from the following choices:

population parameter sample statistic variable data

a) Maria studied 10.5 hours that week. 10.5 hours is an example of data

b) The sample produces an average study time of 9.2 hours. 9.2 hours is an example of statistic

3. [3 points] Identify the type of data as, quantitative discrete, quantitative continuous, or qualitative

a) Whether a student used the textbook in print or as an ebook

qualitative

b) Amount of time a student studied

quantitative continuous

Pink Key Form B

4. A sample of 40 houses being sold were examined to find out how many bedrooms each house had. The data are summarized in the table below:

X = number of bedrooms	Frequency (number of houses)	Relative Frequency	Cumulative Relative Frequency
1	2	$2/40 = .05$.05
2	7	$7/40 = .175$ (b)	.225 (d) ← .05 + .175
3	16	$16/40 = .40$.625 (c) ← .225 + .40
4	? (12) (a)	$12/40 = .30$.925 ← .625 + .30
5	2	$2/40 = .05$.975 ← .925 + .05
6	1	$1/40 = .025$	1.0 ← .975 + .025

Complete the table as needed to answer the questions below.

You are graded on your answers to the questions, not by the numbers you write in the table.

a. [1 point] How many houses had exactly 4 bedrooms?

$$2 + 7 + 16 + 2 + 1 = 28 \quad 40 - 28 = \boxed{12 \text{ houses}}$$

b. [1 point] What is the relative frequency for 2 bedroom houses? (Answer to 3 decimal places)

$$7/40 = \boxed{.175}$$

c. [1.5 points] What is the cumulative relative frequency for 3 bedroom houses? (Answer to 3 decimal places)

$$.05 + .175 + .40 = \boxed{.625}$$

d. [1.5 points] What percent of houses had at most 2 bedrooms? (Answer to a tenth of a percent)

$$\boxed{22.5\%} \quad \text{cumulative relative frequency for 2 bedrooms}$$

e. [1.5 points] What percent of houses had at least 4 bedrooms? (Answer to a tenth of a percent)

$$\boxed{37.5\%} \quad \frac{12 + 2 + 1}{40} = \frac{15}{40} = .375 \quad \text{OR} \quad 1 - .625 = .375$$

5. [3 points] A medical clinic administrator is interested in the recovery times for all patients who visited the clinic for treatment of a sports injury. The clinic administrator selects a sample of its patients who have visited the clinic for a sports injury and reviews their records. Identify the following:

a. The PARAMETER is:

- A. All this clinic's patients who had injuries
- B. Average recovery time for the patients in the sample who had sports injuries *statistic*
- C. Average recovery time for all patients who visited the clinic for a sports injury *parameter*
- D. The recovery time for a patient who visited the clinic for a sports injury *variable*

ANSWER C

b. The POPULATION is:

- A. All of the clinic's patients
- B. All of the clinic's patients who visited the clinic about sports injuries *population*
- C. All the patients whose records were reviewed by the administrator for this study. *sample*
- D. All people who received medical care.

A, D includes people without sports injuries but we are not interested in them in this question ANSWER B

c. The VARIABLE is:

- A. Average recovery time for all patients who visited the clinic for a sports injury *parameter*
- B. List of recovery times for individual patients *data*
- C. Number of patients in the sample *"sample size"*
- D. The recovery time for a patient who visited the clinic for a sports injury

D is "variable"

ANSWER D