

**Math 153 - Quiz 2**  
January 25, 2018

Name key Score \_\_\_\_\_

Show all work to receive full credit. Supply explanations when necessary.

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1. (5 points) What type of sampling is described in each situation. Choose from random, systematic, convenience, stratified, or cluster.

(a) The first ten people to enter a store are asked about their shopping preferences.

CONVENIENCE

(b) One hundred business cards are placed into a box. The cards are mixed up and five are selected.

RANDOM

(c) PSC students are divided into groups according to age, and ten people are selected at random from each group.

STRATIFIED

(d) Every third problem in a textbook's exercise set is selected for homework.

SYSTEMATIC

(e) Ten Illinois community colleges are selected at random to take part in a survey. All students at those colleges are asked to participate.

CLUSTER

2. (5 points) The frequency distribution shows the body mass indices of 50 adults.

BMI	Frequency
17.4-19.9	12
20.0-22.5	5
22.6-25.1	3
25.2-27.7	2
27.8-30.3	5
30.4-32.9	13
33.0-35.5	10

- (a) What is the class width?

$$20.0 - 17.4 = \boxed{2.6}$$

- (b) What are the class midpoints?

$$\frac{17.4 + 19.9}{2} = 18.65, 21.25, 23.85, 26.45, 29.05, \\ 31.65, 34.25$$

- (c) What are the boundaries on the 4th class?

$$25.15 \text{ \& } 27.75$$

- (d) How many data values are less than or equal to 30.3?

$$12 + 5 + 3 + 2 + 5 = \boxed{27}$$

- (e) How would you describe the distribution of the data shown in the table?

PEAKED ON BOTH ENDS, SHALLOW  
IN THE MIDDLE