

Determine whether the given value is from a discrete or continuous data set.

- 1) The total number of phone calls a sales representative makes in a month is 425.

A) **Discrete**

B) Continuous

1) \_\_\_\_\_

Identify the data set's level of measurement.

- 2) hair color of women on a high school tennis team

A) interval

B) ratio

C) **nominal**

D) ordinal

2) \_\_\_\_\_

- 3) ages of students in a statistic class

A) nominal

B) ordinal

C) interval

D) **ratio**

3) \_\_\_\_\_

- 4) the ratings of a movie ranging from "poor" to "good" to "excellent"

A) nominal

B) ratio

C) **ordinal**

D) interval

4) \_\_\_\_\_

Identify the sampling technique used.

- 5) Every fifth person boarding a plane is searched thoroughly.

A) random

B) **systematic**

C) stratified

D) convenience

E) cluster

5) \_\_\_\_\_

- 6) At a local community college, five statistics classes are randomly selected out of 20 and all of the students from each class are interviewed.

A) **cluster**

B) stratified

C) systematic

D) convenience

E) random

6) \_\_\_\_\_

- 7) A researcher randomly selects and interviews fifty male and fifty female teachers.

A) random

B) **stratified**

C) convenience

D) systematic

E) cluster

7) \_\_\_\_\_

Use the data to create a stemplot.

- 8) The attendance counts for this season's basketball games are listed below.

227 239 215 219

221 233 229 233

235 228 245 231

A)

21	5 7 9
22	1 8 9
23	1 3 3 5 9
24	5

B) **Ans**

21	5 9
22	1 7 8 9
23	1 3 3 5 9
24	5

8) \_\_\_\_\_

Use the given frequency distribution to find the

- (a) class width.
- (b) class midpoints of the first class.
- (c) class boundaries of the first class.

9) Height (in inches)

Class	Frequency, f
50 - 52	5
53 - 55	8
56 - 58	12
59 - 61	13
62 - 64	11

9) \_\_\_\_\_

- A) (a) 2  
(b) 51.5  
(c) 50-52
- B) (a) 3  
(b) 51  
(c) 49.5-52.5
- C) (a) 2  
(b) 51.5  
(c) 49.5-52.5
- D) (a) 3  
(b) 51  
(c) 50-52

Provide an appropriate response.

10) Find the mean, median, and mode of the following numbers:

10) \_\_\_\_\_

79, 82, 75, 79, 72, 80, 79, 73, 74, 77 .

- A) mean 78, median 77, mode 79
- B) mean 77, median 78, mode 79

11) The scores of the top ten finishers in a recent golf tournament are listed below. Find the mode score.

11) \_\_\_\_\_

71, 67, 67, 72, 76, 72, 73, 68, 72, 72

- A) 73
- B) 72
- C) 76
- D) 67

Approximate the mean of the frequency distribution.

12)

Miles (per day)	Frequency
1-2	13
3-4	16
5-6	14
7-8	10
9-10	21

12) \_\_\_\_\_

- A) 5
- B) 15
- C) 6
- D) 7

Provide an appropriate response.

13) Find the sample standard deviation.

13) \_\_\_\_\_

15 42 53 7 9 12 14 28 47

- A) 15.8
- B) 16.6
- C) 29.1
- D) 17.8

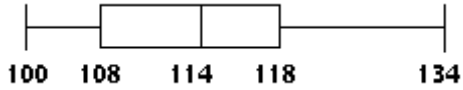
Construct a boxplot for the given data. Include values of the 5-number summary in all boxplots.

- 14) The highest temperatures ever recorded (in °F) in 32 different U.S. states are shown below. 14) \_\_\_\_\_

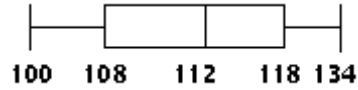
Construct a boxplot for the data set.

100 100 105 105 106 106 107 107  
 109 110 110 112 112 112 114 114  
 114 115 116 117 118 118 118 118  
 118 119 120 121 122 125 128 134

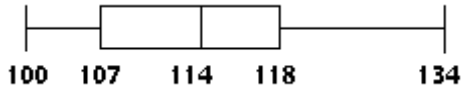
A) **Ans**



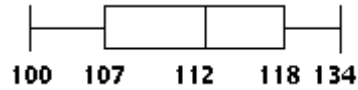
B)



C)



D)



Provide an appropriate response.

- 15) In a random sample, 10 students were asked to compute the distance they travel one way to school to the nearest tenth of a mile. The data is listed below. Compute the range, standard deviation and variance of the data. 15) \_\_\_\_\_

1.1 5.2 3.6 5.0 4.8 1.8 2.2 5.2 1.5 0.8

A) **range = 4.4, s = 1.8, s<sup>2</sup> = 3.324**

B) range = 4.4, s = 1.1, s<sup>2</sup> = 1.21

- 16) A single six-sided die is rolled. Find the probability of rolling a number less than 3. 16) \_\_\_\_\_

A) 0.25

B) **0.333**

C) 0.5

D) 0.1

*There are 6 possible outcomes; two of them less than 3: 2/6 = 1/3 = 0.333...*

- 17) If one card is drawn from a standard deck of 52 playing cards, what is the probability of drawing an ace? 17) \_\_\_\_\_

A)  $\frac{1}{2}$

B)  $\frac{1}{4}$

C)  $\frac{1}{52}$

D)  $\frac{1}{13}$

*There are 4 Aces among the 52 cards: 4/52 = 1/13*

Answer the question, considering an event to be "unlikely" if its probability is less than or equal to 0.05.

- 18) Assume that one student in your class of 28 students is randomly selected to win a prize. Would it be unlikely for you to win? 18) \_\_\_\_\_

A) **Yes**

B) No

*1/28 = 0.03571428 < 0.05 Therefore, unlikely event.*

Provide an appropriate response.

- 19) A card is picked at random from a standard deck of 52 playing cards. Find the odds that it is not a heart. 19) \_\_\_\_\_

A) 4:1

B) 1:4

C) 3:1

D) 1:3

*Not a heart : hearts 39 : 13 it simplifies to 3 : 1*

- 20) At the local racetrack, the favorite in a race has odds 3:2 of winning. What is the probability that the favorite wins the race? 20) \_\_\_\_\_

A) 0.2

B) 0.4

C) 1.5

D) **0.6**

*Total is 3+ 2 = 5; 3 ways of winning; therefore, 3/5 = 0.6*

- 21) A card is drawn from a standard deck of 52 playing cards. Find the probability that the card is an ace or a king. 21) \_\_\_\_\_
- A)  $\frac{1}{13}$                       B)  $\frac{4}{13}$                       C)  $\frac{2}{13}$                       D)  $\frac{8}{13}$

$P(A \text{ or } B) = P(A) + P(B)$                        $P(\text{Ace or King}) = 4/52 + 4/52 = 8/52 = 2/13$

- 22) A card is drawn from a standard deck of 52 playing cards. Find the probability that the card is an ace or a black card. 22) \_\_\_\_\_
- A)  $\frac{4}{13}$                       B)  $\frac{7}{13}$                       C)  $\frac{29}{52}$                       D)  $\frac{15}{26}$

$P(A \text{ or } B) = P(A) + P(B) - P(A \text{ or } B)$                        $P(\text{Ace or Black card}) = 4/52 + 26/52 - 2/52 = 28/52 = 7/13$

- 23) A group of students were asked if they carry a credit card. The responses are listed in the table. 23) \_\_\_\_\_

Class	Credit Card Carrier	Not a Credit Card Carrier	Total
Freshman	21	39	60
Sophomore	22	18	40
Total	43	57	100

If a student is selected at random, find the probability that he or she owns a credit card given that the student is a freshman. Round your answer to three decimal places.

- A) 0.650                      B) 0.488                      C) 0.210                      D) **0.350**

$P(\text{Owns CC} \mid \text{freshman}) = 21/60 = 0.35$

- 24) A group of students were asked if they carry a credit card. The responses are listed in the table. 24) \_\_\_\_\_

Class	Credit Card Carrier	Not a Credit Card Carrier	Total
Freshman	14	46	60
Sophomore	18	22	40
Total	32	68	100

If a student is selected at random, find the probability that he or she is a sophomore given that the student owns a credit card. Round your answers to three decimal places.

- A) 0.800                      B) 0.180                      C) **0.563**                      D) 0.438

$P(\text{sophomore} \mid \text{Owns CC}) = 18/32 = 9/16 = 0.5625$

- 25) You are dealt two cards successively without replacement from a standard deck of 52 playing cards. Find the probability that the first card is a two and the second card is a ten. Round your answer to three decimal places. 25) \_\_\_\_\_

- A) 0.500                      B) 0.250                      C) **0.006**                      D) 0.994

$P(A \text{ and } B) = P(A) * P(B)$                        $P(\text{1st card a two and 2nd card a ten}) = 4/52 * 4/51 = 0.00603$

- 26) Find the probability of answering two true or false questions correctly if random guesses are made. Only one of the choices is correct. 26) \_\_\_\_\_

- A) **0.25**                      B) 0.75                      C) 0.1                      D) 0.5

$P(A \text{ and } B) = P(A) * P(B)$                        $P(\text{1st question correct and 2nd question correct}) = 1/2 * 1/2 = 0.25$

27) Find the probability of getting four consecutive aces when four cards are drawn without replacement from a standard deck of 52 playing cards. 27) \_\_\_\_\_

A)  $P(4\text{-Aces}) = \left(\frac{4}{52}\right)\left(\frac{3}{51}\right)\left(\frac{2}{50}\right)\left(\frac{1}{49}\right) = 0.00000369$

B)  $P(4\text{-Aces}) = \left(\frac{4}{52}\right) + \left(\frac{3}{51}\right) + \left(\frac{2}{50}\right) + \left(\frac{1}{49}\right) = 0.1961547$

Find the indicated probability.

28) What is the probability that 4 randomly selected people all have different birthdays? Round to four decimal places. 28) \_\_\_\_\_

- A) 0.9836                      B) 0.9918                      C) 0.9729                      D) 0.9891

$P(\text{All 4 ppl have diff BD}) = (365/365) * (364/365) * (363/365) * (362/365) = 0.983644$

Provide an appropriate response.

29) What is the probability that a husband, wife, and daughter have the same birthday? 29) \_\_\_\_\_

A)  $\left(\frac{365}{365}\right)\left(\frac{364}{365}\right)\left(\frac{363}{365}\right) = 0.99179583$

B)  $\left(\frac{365}{365}\right)\left(\frac{1}{365}\right)\left(\frac{1}{365}\right) = 0.00000751$

Find the indicated probability.

30) Among the contestants in a competition are 46 women and 23 men. If 5 winners are randomly selected, what is the probability that they are all men? Round to five decimal places. 30) \_\_\_\_\_

- A) 0.13169                      B) 0.00299                      C) 0.02455                      D) 0.03125

$P(\text{all men}) = (23/69) * (22/68) * (21/67) * (20/66) * (19/65) = 0.0029940$

31) A sample of 4 different calculators is randomly selected from a group containing 47 that are defective and 29 that have no defects. What is the probability that all four of the calculators selected are defective? Round to four decimal places. 31) \_\_\_\_\_

- A) 0.1390                      B) 7.5098                      C) 0.1449                      D) 0.1463

$P(\text{all 4 defective}) = (47/76) * (46/75) * (45/74) * (44/73) = 0.139024$

Find the indicated probability. Round to the nearest thousandth.

32) In a very large batch of clock radios 2% are defective. A sample of 11 clock radios is randomly selected without replacement from the batch and tested. The entire batch will be rejected if at least one of those tested is defective. What is the probability that the entire batch will be rejected? 32) \_\_\_\_\_

- A) 0.801                      B) 0.199                      C) 0.0909                      D) 0.0200

$P(\text{at least one } \underline{\hspace{1cm}}) = 1 - P(\text{none of } \underline{\hspace{1cm}})$

$P(\text{at least one defective}) = 1 - P(\text{none defective})$       Note:  $P(\text{non defective}) = 1 - 0.02 = 0.98$

$P(\text{at least one defective}) = 1 - (0.98)^{11} = 0.19926$

## Answer Key

Testname: REVIEW01V

- 1) A
- 2) C
- 3) D
- 4) C
- 5) B
- 6) A
- 7) B
- 8) B
- 9) B
- 10) B
- 11) B
- 12) C
- 13) D
- 14) A
- 15) A
- 16) B
- 17) D
- 18) A
- 19) C
- 20) D
- 21) C
- 22) B
- 23) D
- 24) C
- 25) C
- 26) A
- 27) A
- 28) A
- 29) B
- 30) B
- 31) A
- 32) B