STA 2220 HW 4 Oakland University FALLG 17

Name_____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Provide an appropriate response.

1) Classify the events as dependent or independent. Events A and B where $P(A) = 0.8$, $P(B) = 0.2$, and $P(A \text{ and } B) = 0.16$ 1) _____

A) dependent B) independent

2) Classify the events as dependent or independent. Event A: A red candy is selected from a package with 30 colored candies and eaten. Event B: A blue candy is selected from the same package and eaten. 2) _____

A) dependent B) independent

3) A group of students were asked if they carry a credit card. The responses are listed in the table. (This table for questions 3–7) 3) _____

Class	Credit Card Carrier	Not a Credit Card Carrier	Total
Freshman	40	20	60
Sophomore	25	15	40
Total	65	35	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) 0.400 B) 0.667 C) 0.333 D) 0.615

4) 4) _____

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

A) 0.850 B) 0.353 C) 0.060 D) 0.625

5) 5) _____

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

A) 0.490 B) 0.615 C) 0.197 D) 0.817

6) 6) _____

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) 0.538 B) 0.180 C) 0.385 D) 0.975

7) 7) _____

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

A) 0.950 B) 0.100 C) 0.737 D) 0.263

8) 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. 8) _____

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

9) Decide if the events A and B are Disjoint or not . A die is rolled. 9) _____

A: The result is an odd number.

B: The result is an even number.

A) Yes B) No

10) Decide if the events A and B are Disjoint or not. A card is drawn from a standard deck of 52 playing cards. 10) _____

A: The result is a 7.

B: The result is a jack.

A) No B) Yes

11) A card is drawn from a standard deck of 52 playing cards. Find the probability that the card is an ace or a king. 11) _____

A) $\frac{8}{13}$ B) $\frac{2}{13}$ C) $\frac{4}{13}$ D) $\frac{1}{13}$

12) Given that $P(A \text{ or } B) = \frac{1}{3}$, $P(A) = \frac{1}{4}$, and $P(A \text{ and } B) = \frac{1}{8}$, find $P(B)$. 12) _____

A) $\frac{5}{24}$ B) $\frac{11}{24}$ C) $\frac{17}{24}$ D) $\frac{5}{32}$

13) The events A and B are Disjoint. If $P(A) = 0.1$ and $P(B) = 0.3$, what is $P(A \text{ or } B)$? 13) _____

A) 0.4 B) 0.03 C) 0.2 D) 0

Find the probability.

14) When two balanced dice are rolled, there are 36 possible outcomes. Find the probability that either doubles are rolled or the sum of the dice is 10. 14) _____

A) $\frac{1}{36}$ B) $\frac{2}{9}$ C) $\frac{7}{36}$ D) $\frac{1}{4}$

15) A card is drawn at random from a well-shuffled deck of 52 cards. What is the probability of drawing a face card or a spade? 15) _____

A) $\frac{11}{26}$ B) $\frac{1}{2}$ C) $\frac{25}{52}$ D) $\frac{6}{13}$

Find the indicated probability.

16) A bag contains 5 red marbles, 4 blue marbles, and 1 green marble. If a marble is selected at random, what is the probability that it is not blue? 16) _____

A) 6 B) $\frac{2}{5}$ C) $\frac{5}{3}$ D) $\frac{3}{5}$

Find the probability.

17) If you are dealt two cards successively (with replacement of the first) from a standard 52-card deck, find the probability of getting a heart on the first card and a diamond on the second. 17) _____

A) $\frac{13}{204}$ B) $\frac{1}{169}$ C) $\frac{1}{16}$ D) $\frac{1}{204}$

Find the conditional probability.

18) Suppose one card is selected at random from an ordinary deck of 52 playing cards. Let 18) _____

A = event a queen is selected
B = event a diamond is selected.

Determine P(B | A).

A) $\frac{1}{4}$ B) $\frac{1}{52}$ C) $\frac{1}{13}$ D) $\frac{1}{2}$

Solve the problem.

19) A basket contains 6 oranges and 4 tangerines. A sample of 3 is drawn. Find the probability that 2 are tangerines and one is an orange. 19) _____

A) $\frac{1}{20}$ B) $\frac{1}{5}$ C) $\frac{3}{10}$ D) $\frac{1}{2}$