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

Solve the problem.

1) Which of the following assignments of probabilities to the sample points $A$, $B$, and $C$ is valid if $A$, $B$, and $C$ are the only sample points in the experiment? 1) _____

A) $P(A) = -\frac{1}{4}, P(B) = \frac{1}{2}, P(C) = \frac{3}{4}$

B) $P(A) = \frac{1}{7}, P(B) = \frac{1}{6}, P(C) = \frac{1}{4}$

C) $P(A) = \frac{1}{5}, P(B) = \frac{1}{5}, P(C) = \frac{1}{5}$

D) $P(A) = 0, P(B) = \frac{1}{12}, P(C) = \frac{11}{12}$

2) If sample points $A$, $B$, $C$, and $D$ are the only possible outcomes of an experiment, find the probability of $D$ using the table below. 2) _____

| Sample Point | *A* | *B* | *C* | *D* |
|---|---|---|---|---|
| Probability | 1/10 | 1/10 | 1/10 | |

A) $\frac{1}{10}$ B) $\frac{7}{10}$ C) $\frac{1}{4}$ D) $\frac{3}{10}$

3) A bag of candy was opened and the number of pieces was counted. The results are shown in the tab below: 3) _____

| Color | Number |
|---|---|
| Red | 25 |
| Brown | 20 |
| Green | 20 |
| Blue | 15 |
| Yellow | 10 |
| Orange | 10 |

List the sample space for this problem.

A) {Red}

B) {0.25, 0.20, 0.20, 0.15, 0.10, 0.10}

C) {Red, Brown, Green, Blue, Yellow, Orange}

D) {25, 20, 20, 15, 10, 10}

4) Fill in the blank. A(n) _____ is a process that leads to a single outcome that cannot be predicted with certainty. 4) _____

A) event B) sample point C) sample space D) experiment

5) Fill in the blank. A(n) _____ is the most basic outcome of an experiment. 5) _____

A) sample point B) experiment C) event D) sample space

6) Fill in the blank. The _____ is the collection of all the sample points in an experiment. 6) _____

A) sample space B) union C) event D) Venn diagram

7) Fill in the blank. A(n) _____ is a collection of sample points. 7) _____

A) sample space B) event C) experiment D) Venn diagram

The outcome of an experiment is the number of resulting heads when a nickel and a dime are flipped simultaneously. What is the sample space for this experiment? 8) _____

A) {HH, HT, TT} B) {nickel, dime}
C) {HH, HT, TH, TT} D) {0, 1, 2}

An experiment consists of rolling two dice and summing the resulting values. Which of the following is not a sample point for this experiment? 9) _____

A) 6 B) 1 C) 7 D) 2

Which number could be the probability of an event that rarely occurs? 10) _____

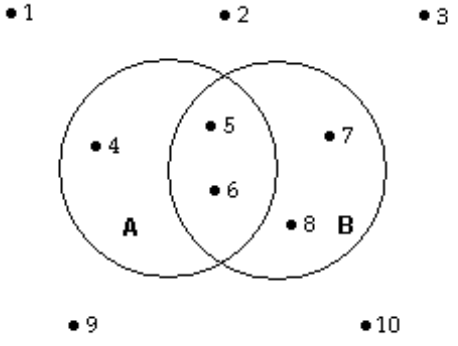
A) .99 B) -.01 C) .51 D) .01

Suppose that an experiment has five equally likely outcomes. What probability is assigned to each of the sample points? 11) _____

A) .2 B) .05 C) .5 D) 1

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

The accompanying Venn diagram describes the sample space of a particular experiment and events $A$ and $B$. Suppose $P(1) = P(2) = P(3) = P(4) = \frac{1}{16}$ and $P(5) = P(6) = P(7) = P(8) = P(9) = P(10) = \frac{1}{8}$. Find $P(A)$ and $P(B)$. 12) _____




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

Probabilities of different types of vehicle-to-vehicle accidents are shown below: 13) _____

| Accident | Probability |
|---|---|
| Car to Car | 0.52 |
| Car to Truck | 0.17 |
| Truck to Truck | 0.31 |

Find the probability that an accident involves a car.

A) 0.31 B) 0.17 C) 0.69 D) 0.52

A hospital reports that two patients have been admitted who have contracted Crohn's disease. Suppose our experiment consists of observing whether each patient survives or dies as a result of the disease. The simple events and probabilities of their occurrences are shown in the table (where *S* in the first position means that patient 1 survives, *D* in the first position means that patient 1 dies, etc.). 14) _____

| Simple Events | Probabilities |
|---|---|
| *SS* | 0.59 |
| *SD* | 0.12 |
| *DS* | 0.18 |
| *DD* | 0.11 |

Find the probability that at least one of the patients does not survive.

A) 0.11 B) 0.41 C) 0.30 D) 0.12

At a community college with 500 students, 120 students are age 30 or older. Find the probability that a randomly selected student is age 30 or older. 15) _____

A) .76 B) .24 C) .12 D) .30

A music store has 8 male and 12 female employees. Suppose one employee is selected at random and the employee's gender is observed. List the sample points for this experiment, and assign probabilities to the sample points. 16) _____

A) {8, 12}; $P(8) = .5$ and $P(12) = .6$

B) {8, 12}; $P(8) = .8$ and $P(12) = .12$

C) {male, female}; $P(\text{male}) = .4$ and $P(\text{female}) = .6$

D) {male, female}; $P(\text{male}) = .8$ and $P(\text{female}) = .12$

The table displays the probabilities for each of the six outcomes when rolling a particular unfair die. the probability that the number rolled on a single roll of this die is less than 4. 17) _____

| Outcome | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Probability | .1 | .1 | .1 | .2 | .2 | .3 |

A) .7 B) .3 C) .5 D) .2

Two chips are drawn at random and without replacement from a bag containing four blue chips and three red chips. Find the probability of drawing two red chips. 18) _____

A) $\frac{1}{7}$ B) $\frac{6}{7}$ C) $\frac{9}{49}$ D) $\frac{1}{12}$

Kim submitted a list of 12 movies to an online movie rental company. The company will choose 3 of the movies and ship them to her. If all movies are equally likely to be chosen, what is the probability that Kim will receive the three movies that she most wants to watch? Express the probability as a fraction. 19) _____

A) $\frac{1}{4}$ B) $\frac{1}{1320}$ C) $\frac{1}{1728}$ D) $\frac{1}{220}$

Answer the question True or False.

The combinations rule applies to situations in which the experiment calls for selecting $n$ elements from a total of $N$ elements, without replacing each element before the next is selected. 20) _____

A) True B) False

Solve the problem.

A number between 1 and 10, inclusive, is randomly chosen. Events $A$ and $B$ are defined as follows. 21) _____

$A$: {The number is even}
$B$: {The number is less than 7}

Identify the sample points in the event $A \cup B$.

A) {2, 4, 6} B) {1, 2, 3, 4, 5, 6, 8, 10}
C) {1, 2, 3, 4, 5, 6, 7, 8, 10} D) {1, 2, 3, 4, 5, 6, 7, 9}

A pair of fair dice is tossed. Events $A$ and $B$ are defined as follows. 22) _____

$A$: {The sum of the numbers on the dice is 4}
$B$: {The sum of the numbers on the dice is 11}

Identify the sample points in the event $A \cup B$.

A) {(1, 4), (2, 2), (4, 1), (5, 6), (6, 5)}
B) {(1, 3), (2, 2), (3, 1), (5, 6), (6, 5)}
C) {(1, 4), (2, 3), (3, 2), (4, 1), (5, 6), (6, 5)}
D) There are no sample points in the event $A \cup B$.

A number between 1 and 10, inclusive, is randomly chosen. Events $A$ and $B$ are defined as follows. 23) _____

$A$: {The number is even}
$B$: {The number is less than 7}

Which expression represents the event that the number is both even and less than 7?

A) $A \cup B$ B) $B^c$ C) $A \cap B$ D) $A^c$

Fill in the blank. The _____ of two events $A$ and $B$ is the event that either $A$ or $B$ or both occur. 24) _____

A) intersection B) union C) Venn diagram D) complement

Fill in the blank. The _____ of two events $A$ and $B$ is the event that both $A$ and $B$ occur. 25) _____

A) complement B) Venn diagram C) union D) intersection

The overnight shipping business has skyrocketed in the last ten years. The single greatest predictor of a company's success is customer service. A study was conducted to determine the customer satisfaction levels for one overnight shipping business. In addition to the customer's satisfaction level, the customers were asked how often they used overnight shipping. The results are shown in the following table: 26) _____

| | Satisfaction level | | | |
|---|---|---|---|---|
| Frequency of Use | High | Medium | Low | TOTAL |
| < 2 per month | 250 | 140 | 10 | 400 |
| 2 - 5 per month | 140 | 55 | 5 | 200 |
| > 5 per month | 70 | 25 | 5 | 100 |
| TOTAL | 460 | 220 | 20 | 700 |

Suppose that one customer who participated in the study is chosen at random. What is the probabili the customer had a medium level of satisfaction and used the company more than five times per month?

A) $\frac{16}{35}$ B) $\frac{81}{140}$ C) $\frac{1}{28}$ D) $\frac{59}{140}$

Four hundred accidents that occurred on a Saturday night were analyzed. The number of vehicles involved and whether alcohol played a role in the accident were recorded. The results are shown below: 27) _____

| | Number of Vehicles Involved | | | |
|---|---|---|---|---|
| Did Alcohol Play a Role? | 1 | 2 | 3 or more | Totals |
| Yes | 51 | 98 | 21 | 170 |
| No | 28 | 170 | 32 | 230 |
| Totals | 79 | 268 | 53 | 400 |

Suppose that one of the 400 accidents is chosen at random. What is the probability that the accident involved more than a single vehicle?

A) $\frac{53}{400}$ B) $\frac{321}{400}$ C) $\frac{79}{400}$ D) $\frac{21}{400}$

The table displays the probabilities for each of the six outcomes when rolling a particular unfair die. Suppose that the die is rolled once. Let $A$ be the event that the number rolled is less than 4, and let $B$ be the event that the number rolled is odd. Find $P(A \cap B)$. 28) _____

| Outcome | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Probability | .1 | .1 | .1 | .2 | .2 | .3 |

A) .5 B) .3 C) .7 D) .2

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Suppose that an experiment has five sample points, $E_1, E_2, E_3, E_4, E_5$, and that $P(E_1) = .2$, $P(E_2) = .3$, $P(E_3) = .1$, $P(E_4) = .1$, and $P(E_5) = .3$. If the events $A$ and $B$ are defined as $A = \{E_1, E_2, E_3\}$ and $B = \{E_2, E_3, E_4\}$ find $P(A \cap B)$. 29) _____

A fast-food restaurant chain with 700 outlets in the United States has recorded the geograpl 30) _____
location of its restaurants in the accompanying table of percentages. One restaurant is to be chosen at random from the 700 to test market a chicken sandwich.

| | | Region | | | |
|---|---|---|---|---|---|
| | | NE | SE | SW | NW |
| Population of City | <10,000 | 3% | 6% | 3% | 0% |
| | 10,000 - 100,000 | 15% | 6% | 12% | 5% |
| | >100,000 | 20% | 4% | 2% | 24% |

What is the probability that the restaurant is located in the western portion of the United Sta

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

In the game of Parcheesi each player rolls a pair of dice on each turn. In order to begin the game, you must roll a five on at least one die, or a total of five on both dice. Find the probability that a player begins the game on the first roll. 31) _____

A) $\frac{15}{36}$ B) $\frac{5}{18}$ C) $\frac{11}{36}$ D) $\frac{1}{6}$

A state energy agency mailed questionnaires on energy conservation to 1,000 homeowners in the state capital. Five hundred questionnaires were returned. Suppose an experiment consists of randomly selecting one of the returned questionnaires. Consider the events: 32) _____

*A*: {The home is constructed of brick}
*B*: {The home is more than 30 years old}
*D*: {The home is heated with oil}

Which of the following describes the event $B \cup D^C$?

A) homes more than 30 years old that are heated with oil
B) homes that are not older than 30 years old and heated with oil
C) homes more than 30 years old or homes that are not heated with oil
D) homes more than 30 years old that are not heated with oil

At a community college with 500 students, 120 students are age 30 or older. Find the probability that a randomly selected student is less than 30 years old. 33) _____

A) .12 B) .30 C) .24 D) .76

The overnight shipping business has skyrocketed in the last ten years. The single greatest predictor of a company's success is customer service. A study was conducted to determine the customer satisfaction levels for one overnight shipping business. In addition to the customer's satisfaction level, the customers were asked how often they used overnight shipping. The results are shown below in the following table: 34) _____

| | Satisfaction level | | | |
|---|---|---|---|---|
| Frequency of Use | High | Medium | Low | TOTAL |
| < 2 per month | 250 | 140 | 10 | 400 |
| 2 - 5 per month | 140 | 55 | 5 | 200 |
| > 5 per month | 70 | 25 | 5 | 100 |
| TOTAL | 460 | 220 | 20 | 700 |

Suppose that one customer who participated in the study is chosen at random. What is the probabili the customer did not have a medium level of satisfaction with the company?

A) $\frac{11}{35}$ B) $\frac{2}{7}$ C) $\frac{24}{35}$ D) $\frac{5}{7}$

A sample of 350 students was selected and each was asked the make of their automobile (foreign or domestic) and their year in college (freshman, sophomore, junior, or senior). The results are shown in the table below. 35) _____

| | | Year in College | | | | |
|---|---|---|---|---|---|---|
| | | Freshman | Sophomore | Junior | Senior | Total |
| Car | Foreign | 15 | 65 | 100 | 25 | 205 |
| | Domestic | 10 | 45 | 80 | 10 | 145 |
| | Total | 25 | 110 | 180 | 35 | 350 |

Which of the following events listed would be considered mutually exclusive events?

A) The student is a junior and the student is a freshman
B) The student is a senior and the student drives a domestic automobile.
C) The student is a freshman and the student drives a foreign automobile
D) The student is a junior and the student drives a domestic automobile

If $P(A \cup B) = 1$ and $P(A \cap B) = 0$, then which statement is true? 36) _____

A) $A$ and $B$ are supplementary events. B) $A$ and $B$ are reciprocal events.
C) $A$ and $B$ are both empty events. D) $A$ and $B$ are complementary events.

Answer the question True or False.

If two events, $A$ and $B$, are mutually exclusive, then $P(A \text{ and } B) = P(A) \times P(B)$. 37) _____

A) True B) False

If events $A$ and $B$ are not mutually exclusive, then it is possible that $P(A) + P(B) > 1$. 38) _____

A) True B) False

Solve the problem.

Suppose that for a certain experiment $P(A) = .33$ and $P(B) = .29$. If $A$ and $B$ are mutually exclusive events, find $P(A \cup B)$. 39) _____

A) .31 B) .62 C) .38 D) .03

In a box of 50 markers, 30 markers are either red or black and 20 are missing their caps. If 12 markers are either red or black and are missing their caps, find the probability that a randomly selected marker is red or black or is missing its cap. 40) _____

A) .38 B) 1 C) .24 D) .76

Each manager of a corporation was rated as being either a good, fair, or poor manager by his/her bos 41) _____
The manager's educational background was also noted. The data appear below:

Educational Background

| Manager Rating | H. S. Degree | Some College | College Degree | Master's or Ph.D. | Totals |
|---|---|---|---|---|---|
| Good | 9 | 2 | 27 | 1 | 39 |
| Fair | 5 | 12 | 47 | 23 | 87 |
| Poor | 4 | 7 | 3 | 20 | 34 |
| Totals | 18 | 21 | 77 | 44 | 160 |

What is the probability that a randomly chosen manager is either a good managers or has an advanc degree?

A) $\frac{41}{80}$ B) $\frac{83}{160}$ C) $\frac{159}{160}$ D) $\frac{1}{160}$

A medium-sized company characterized their employees based on the sex of the employee and their length of service to the company. The results are summarized in the table below. 42) _____

| | | Years Employed | | | | |
|---|---|---|---|---|---|---|
| | | 0-5 | 6-10 | 11-20 | >20 | Total |
| Sex | Male | 25 | 20 | 15 | 5 | 65 |
| | Female | 30 | 25 | 10 | 0 | 65 |
| | Total | 55 | 45 | 25 | 5 | 130 |

What proportion of the employees are female or have been employed for more than 10 years?

A) 110/130 B) 25/65 C) 85/130 D) 25/130

A medium-sized company characterized their employees based on the sex of the employee and their length of service to the company. The results are summarized in the table below. 43) _____

| | | Years Employed | | | | |
|---|---|---|---|---|---|---|
| | | 0-5 | 6-10 | 11-20 | >20 | Total |
| Sex | Male | 25 | 20 | 15 | 5 | 65 |
| | Female | 30 | 25 | 10 | 0 | 65 |
| | Total | 55 | 45 | 25 | 5 | 130 |

What proportion of the employees are male or have been employed for less than 11 years?

A) 42/65 B) 45/130 C) 120/130 D) 165/130

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Suppose that for a certain experiment $P(A) = \frac{1}{3}$ and $P(B) = \frac{1}{4}$, and events $A$ and $B$ are mutually exclusive. Find $P(A \cup B)$. 44) _____

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

A package of self-sticking notepads contains 6 yellow, 6 blue, 6 green, and 6 pink notepads. An experiment consists of randomly selecting one of the notepads and recording its color. Find the probability that a green notepad is selected given that it is either blue or green. 45) _____

A) $\frac{1}{4}$ B) $\frac{1}{2}$ C) $\frac{1}{12}$ D) $\frac{1}{3}$

An economy pack of highlighters contains 12 yellow, 6 blue, 4 green, and 3 orange highlighters. An experiment consists of randomly selecting one of the highlighters and recording its color. Find the probability that a blue or yellow highlighter is selected given that a yellow highlighter is selected. 46) _____

A) $\frac{1}{2}$ B) 1 C) $\frac{1}{3}$ D) 0

In a class of 40 students, 22 are women, 10 are earning an A, and 7 are women that are earning an A. If a student is randomly selected from the class, find the probability that the student is earning an A given that the student is a woman. 47) _____

A) $\frac{7}{22}$ B) $\frac{5}{11}$ C) $\frac{1}{4}$ D) $\frac{7}{40}$

The overnight shipping business has skyrocketed in the last ten years. The single greatest predictor of a company's success is customer service. A study was conducted to determine the customer satisfaction levels for one overnight shipping business. In addition to the customer's satisfaction level, the customers were asked how often they used overnight shipping. The results are shown below in the following table: 48) _____

| | Satisfaction level | | | |
|---|---|---|---|---|
| Frequency of Use | High | Medium | Low | TOTAL |
| < 2 per month | 250 | 140 | 10 | 400 |
| 2 - 5 per month | 140 | 55 | 5 | 200 |
| > 5 per month | 70 | 25 | 5 | 100 |
| TOTAL | 460 | 220 | 20 | 700 |

A customer is chosen at random. Given that the customer uses the company less than two times per month, what is the probability that the customer expressed low satisfaction with the company?

A) $\frac{41}{70}$ B) $\frac{1}{70}$ C) $\frac{1}{2}$ D) $\frac{1}{40}$

Each manager of a corporation was rated as being either a good, fair, or poor manager by his/her bos 49) _____
The manager's educational background was also noted. The data appear below:

Educational Background

| Manager Rating | H. S. Degree | Some College | College Degree | Master's or Ph.D. | Totals |
|---|---|---|---|---|---|
| Good | 9 | 1 | 25 | 4 | 39 |
| Fair | 2 | 12 | 49 | 24 | 87 |
| Poor | 4 | 3 | 6 | 21 | 34 |
| Totals | 15 | 16 | 80 | 49 | 160 |

Given that a manager is rated as fair, what is the probability that this manager has no college backgr

A) $\frac{2}{15}$ B) $\frac{1}{80}$ C) $\frac{5}{8}$ D) $\frac{2}{87}$

The manager of a used car lot took inventory of the automobiles on his lot and constructed the following table based on the age of each car and its make (foreign or domestic): 50) _____

Age of Car (in years)

| Make | 0 - 2 | 3 - 5 | 6 - 10 | over 10 | Total |
|---|---|---|---|---|---|
| Foreign | 40 | 23 | 12 | 25 | 100 |
| Domestic | 45 | 21 | 13 | 21 | 100 |
| Total | 85 | 44 | 25 | 46 | 200 |

A car was randomly selected from the lot. Given that the car selected was a foreign car, what is the probability that it was older than 2 years old?

A) $\frac{8}{23}$ B) $\frac{3}{5}$ C) $\frac{12}{23}$ D) $\frac{2}{5}$

A sample of 350 students was selected and each was asked the make of their automobile (foreign or domestic) and their year in college (freshman, sophomore, junior, or senior). The results are shown in the table below. 51) _____

| | | Year in College | | | | |
|---|---|---|---|---|---|---|
| | | Freshman | Sophomore | Junior | Senior | Total |
| Car | Foreign | 15 | 65 | 100 | 25 | 205 |
| | Domestic | 10 | 45 | 80 | 10 | 145 |
| | Total | 25 | 110 | 180 | 35 | 350 |

Given that you know the selected student is in the senior class, find the probability they drive a dom automobile.

A) 25/35 B) 15/205 C) 10/35 D) 15/350

A medium-sized company characterized their employees based on the sex of the employee and their length of service to the company. The results are summarized in the table below. 52) _____

| | | Years Employed | | | | |
|---|---|---|---|---|---|---|
| | | 0-5 | 6-10 | 11-20 | >20 | Total |
| Sex | Male | 25 | 20 | 15 | 5 | 65 |
| | Female | 30 | 25 | 10 | 0 | 65 |
| | Total | 55 | 45 | 25 | 5 | 130 |

Suppose an employee has been randomly selected from this company. Given that the employee is m find the probability that they have worked for the company for more than 10 years?

A) 20/30 B) 20/65 C) 20/130 D) 75/130

For two events, $A$ and $B$, $P(A) = .6$, $P(B) = .8$, and $P(A \mid B) = .5$. Find $P(A \cap B)$. 53) _____

A) .3 B) .4 C) .833 D) .625

Answer the question True or False.

If $A$ and $B$ are mutually exclusive events, then $P(A \mid B) = 0$. 54) _____

A) True B) False

If every sample point in event $B$ is also a sample point in event $A$, then $P(A \mid B) = 1$. 55) _____

A) True B) False

Solve the problem.

Suppose that for a certain experiment $P(A) = 0.6$ and $P(B) = 0.3$. If $A$ and $B$ are independent events, find $P(A \cap B)$. 56) _____

A) 0.30 B) 0.50 C) 0.90 D) 0.18

A machine has four components, A, B, C, and D, set up in such a manner that all four parts must work for the machine to work properly. Assume the probability of one part working does not depend on the functionality of any of the other parts. Also assume that the probabilities of the individual parts working are $P(A) = P(B) = 0.92$, $P(C) = 0.9$, and $P(D) = 0.98$. Find the probability that the machine works properly. 57) _____

A) 0.8114 B) 0.7618 C) 0.2535 D) 0.7465

A study revealed that 45% of college freshmen are male and that 18% of male freshmen earned college credits while still in high school. Find the probability that a randomly chosen college freshman will be male and have earned college credits while still in high school. 58) _____

A) 0.400 B) 0.081 C) 0.027 D) 0.530

A basketball player has an 80% chance of making the first free-throw he shoots. If he makes the first free-throw shot, then he has a 90% chance of making the second free-throw he shoots. If he misses the first free-throw shot, then he only has a 70% chance of making the second free-throw he shoots. Suppose this player has been awarded two free-throw shots. Find the probability that he makes at least one of the two shots. 59) _____

A) 0.94 B) 0.80 C) 0.86 D) 0.72

If $P(A \mid B) = 0$ and $P(A) \neq 0$, then which statement is false? 60) _____

A) Events $A$ and $B$ are dependent.
B) Events $A$ and $B$ have no sample points in common.
C) Events $A$ and $B$ are independent.
D) Events $A$ and $B$ are mutually exclusive.

If $P(A) = .55$, $P(B \mid A) = .4$, $P(A \cap B) = .22$, and $A$ and $B$ are independent events, find $P(B)$. 61) _____

A) .88 B) .55 C) .22 D) .4

The table displays the probabilities for each of the six outcomes when rolling a particular unfair die. Suppose that the die is rolled once. 62) _____

| Outcome | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Probability | .1 | .1 | .1 | .2 | .2 | .3 |

Events $A$, $B$, $C$, and $D$ are defined as follows.

$A$: {The number is even}
$B$: {The number is less than 4}
$C$: {The number is less than or equal to 5}
$D$: {The number is greater than or equal to 5}

Identify one pair of independent events.

A) $B$ and $D$ B) $A$ and $B$ C) $A$ and $D$ D) $B$ and $C$

Classify the events as dependent or independent: Events $A$ and $B$ where $P(A) = 0.2$, $P(B) = 0.4$, and $P(A \text{ and } B) = 0.07$. 63) _____

A) independent B) dependent

Answer the question True or False.

Two events, $A$ and $B$, are independent if $P(A \text{ and } B) = P(A) \times P(B)$. 64) _____

A) True B) False

If $A$ and $B$ are independent events, then $A$ and $B$ are also mutually exclusive. 65) _____

A) True B) False