

Probability: Chapter 3**Practice Questions****Notes**

<p>1. A box contains 10 music CDs and 7 movie DVDs. You pick from the box without looking. What is the probability of choosing a movie DVD?</p> <p>A) $\frac{1}{7}$ B) $\frac{1}{10}$ C) $\frac{1}{17}$ D) $\frac{7}{17}$</p>	D
<p>2. Determine the probability of drawing four 8's and one 2 from a standard deck of 52 cards</p> <p>A) $P = \frac{2}{54\,145}$</p> <p>B) $P = \frac{1}{649\,740}$</p> <p>C) $P = \frac{1}{2\,598\,960}$</p> <p>D) $P = \frac{1}{3\,116\,100}$</p>	B
<p>3. Determine the probability, to the nearest tenth, of randomly selecting an outfit with black pants, given 5 pairs of different coloured pants (one of which is black), 6 different shirts and 3 belts to choose from.</p> <p>_____</p>	0.2

<p>4. An insurance company studies crime records, and determines that in any given year, the probability of a house burglary in Community A is 0.2, whereas the probability of this happening in Community B is 0.15. Mr. Smith lives in Community A, and Mr. Jones lives in Community B.</p> <p>What is the probability that just one of the two men will be burglarized this year?</p> <p>A) 0.03 B) 0.29 C) 0.32 D) 0.68</p>	B
<p>5. A box has 3 red marbles, 5 green marbles, and 2 blue marbles in it. What is the probability of first drawing a red marble out of the box, not replacing it, then drawing a green marble?</p> <p>A) 0.185 B) 0.80 C) 0.167 D) 0.15</p>	C
<p>6. What is the probability of rolling a sum of 7 from rolling a pair of fair dice, in decimal form?</p> <p>A) 0.06 B) 0.16 C) 0.17 D) 0.25</p>	C
<p>7. Two cards are drawn from an ordinary deck of cards. Find the probability that both are face cards (King, Queen, Jack) if the first card drawn is not replaced before the second is drawn.</p> <p>A) $\frac{3}{13}$ B) $\frac{1}{13}$ C) $\frac{9}{169}$ D) $\frac{11}{221}$</p>	D

<p>8. For two events, $P(A)=\frac{1}{4}$ and $P(B)=\frac{1}{3}$. Assuming that the events are mutually exclusive, what is $P(A \text{ or } B)$?</p> <p>A) 0.08333 B) 0.14286 C) 0.58333 D) 0.50000</p>	C
<p>9. The odds in favour of a basketball player getting a free-throw in are 5:3.</p> <p>i) Determine the probability of the player getting a shot in (to the nearest hundredth). _____</p> <p>ii) How many of the next 13 shots will the player likely sink? _____</p>	<p>i) 0.625 ii) 8</p>
<p>10. A sample space is a _____</p> <p>A) set of all possible outcomes B) set of favourable outcomes. C) set of unfavourable outcomes. D) set of relative frequencies.</p>	A

11. Use the following information to answer the question.

Three Experiments and Related Events

- I** Experiment I involves rolling a fair die once. Event X is rolling a 2. Event Y is rolling a 6.
- II** Experiment II involves randomly selecting one number from 1 to 10 inclusive. Event X is selecting an odd number. Event Y is selecting a number that is prime.
- III** Experiment III involves randomly choosing one marble from a bag. Event X is choosing a red marble. Event Y is choosing a green marble.

The mutually exclusive events are described in experiments

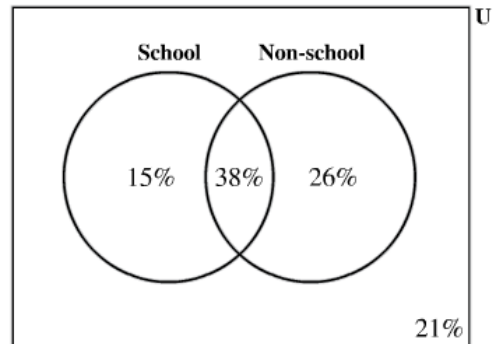
- A.** I and II only
- B.** I and III only
- C.** II and III only
- D.** I, II, and III

B

12. Use the following information to answer the question.

A survey of Alberta students was used to estimate the percentage of students who participate in school and non-school athletics, as well as the percentage who do not participate in any athletics. The results of the survey are shown in the Venn diagram below.

Participation in School and Non-School Athletics



The odds in favour of randomly selecting an Alberta student who participates in school athletics are

- A. 15 : 64
- B. 15 : 85
- C. 53 : 26
- D. 53 : 47

D

13. Use the following information to answer the question.

0.04

An automobile association collected data on the probability of an accident occurring at different time periods over the course of a day. It also collected separate data on the probability of an accident occurring in each month of the year. These data are shown in the two tables below.

Accident Occurrence by Time of Day

24-h Clock Time Period	Probability of An Accident Occurring
23:00 – 02:59	0.074
03:00 – 06:59	0.061
07:00 – 10:59	0.180
11:00 – 14:59	0.241
15:00 – 18:59	0.286
19:00 – 22:59	0.158
Total	1.000

Accident Occurrence by Month

Month	Probability of An Accident Occurring
January	0.105
February	0.094
March	0.072
April	0.075
May	0.066
June	0.073
July	0.073
August	0.068
September	0.072
October	0.079
November	0.089
December	0.134
Total	1.000

Assuming that they are independent events, the probability, to the nearest hundredth, that a randomly selected accident will occur in the time period 15:00 – 18:59 in December is

_____.

14. Based on previous performance, the probability of a particular baseball team winning any game is $\frac{4}{5}$. What is the probability that the team will win 1 game and lose 1 game during the next 2 games?

0.32

<p>15. A recent survey determined that 85% of a population watches TV at least once a day, 35% of the population uses a computer at least once a day, and 25% of the population do both.</p> <p>What is the probability that a person chosen at random from the population watches TV at least once a day or uses a computer at least once a day?</p>	<p>0.95</p>
<p>16. The probability of Brenda getting hit in a baseball game is 0.345. The probability of Brenda or Deborah getting hit during the game is 0.617. The probability of both Brenda and Deborah getting hits during the game is 0.224.</p> <p>Determine the probability of Deborah getting a hit in the game.</p>	<p>0.496</p>