6.7 Practice Problems

Name_____

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

Solve the problem.

1) If a single fair die is rolled, find the probability of a 4 given that the number rolled is odd. 1) _____

    A) 1   B) 0   C) $\frac{1}{6}$ D) $\frac{1}{2}$

2) If a single fair die is rolled, find the probability of a 5 given that the number rolled is odd. 2) _____

    A) $\frac{1}{3}$ B) $\frac{2}{3}$ C) $\frac{1}{2}$ D) $\frac{1}{6}$

3) If two fair dice are rolled, find the probability of a sum of 6 given that the roll is a "double". 3) _____

    A) $\frac{1}{5}$ B) $\frac{1}{3}$ C) $\frac{1}{4}$ D) $\frac{1}{6}$

4) If two fair dice are rolled, find the probability of a "double" given that the sum is 11. 4) _____

    A) $\frac{1}{4}$ B) 0   C) $\frac{1}{3}$ D) $\frac{1}{2}$

5) If two cards are drawn without replacement from a deck, find the probability that the second card is a spade, given that the first card was a spade. 5) _____

    A) $\frac{11}{12}$ B) $\frac{11}{51}$ C) $\frac{3}{13}$ D) $\frac{4}{17}$

6) If two cards are drawn without replacement from a deck, find the probability that the second card is red, given that the first card was a heart. 6) _____

    A) $\frac{12}{51}$ B) $\frac{22}{23}$ C) $\frac{25}{51}$ D) $\frac{26}{51}$

7) If two cards are drawn without replacement from a deck, find the probability that the second card is a face card, given that the first card was a queen. 7) _____

    A) $\frac{15}{51}$ B) $\frac{3}{13}$ C) $\frac{11}{51}$ D) $\frac{12}{51}$

8) If two cards are drawn without replacement from a deck, find the probability that the second card is an ace, given that the first card was an ace. 8) _____

    A) $\frac{1}{3}$ B) $\frac{4}{51}$ C) $\frac{1}{17}$ D) $\frac{3}{52}$

9) If three cards are drawn without replacement from a deck, find the probability that the third card is a heart, given that the first two cards were hearts. 9) _____

    A) $\frac{1}{5}$ B) $\frac{11}{50}$ C) $\frac{1}{6}$ D) $\frac{6}{25}$

10) If three cards are drawn without replacement from a deck, find the probability that the third card is 10) _____
a face card, given that the first card was a queen and the second card was a 5.

A) $\frac{1}{5}$ 　　　　　B) $\frac{6}{25}$ 　　　　　C) $\frac{11}{50}$ 　　　　　D) $\frac{3}{13}$

Two marbles are drawn without replacement from a box with 3 white, 2 green, 2 red, and 1 blue marble. Find the probability.

11) The second marble is red given the first marble is white. 11) _____

A) $\frac{3}{32}$ 　　　　　B) $\frac{1}{4}$ 　　　　　C) $\frac{2}{7}$ 　　　　　D) $\frac{3}{28}$

12) The second marble is white given the first marble is blue. 12) _____

A) $\frac{3}{7}$ 　　　　　B) $\frac{3}{64}$ 　　　　　C) $\frac{3}{56}$ 　　　　　D) $\frac{3}{8}$

13) The second marble is blue given the first marble is white. 13) _____

A) $\frac{3}{8}$ 　　　　　B) $\frac{1}{8}$ 　　　　　C) $\frac{1}{7}$ 　　　　　D) $\frac{3}{7}$

14) The second marble is blue given the first marble is red. 14) _____

A) $\frac{2}{7}$ 　　　　　B) $\frac{1}{8}$ 　　　　　C) $\frac{1}{4}$ 　　　　　D) $\frac{1}{7}$

15) The second marble is blue given the first marble is blue. 15) _____

A) $\frac{1}{7}$ 　　　　　B) 0 　　　　　C) $\frac{1}{8}$ 　　　　　D) $\frac{1}{28}$

16) Both marbles are red. 16) _____

A) $\frac{1}{16}$ 　　　　　B) $\frac{1}{28}$ 　　　　　C) $\frac{1}{4}$ 　　　　　D) $\frac{3}{56}$

17) Both marbles are white. 17) _____

A) $\frac{3}{8}$ 　　　　　B) $\frac{3}{32}$ 　　　　　C) $\frac{9}{56}$ 　　　　　D) $\frac{3}{28}$

18) Both marbles are green. 18) _____

A) $\frac{1}{28}$ 　　　　　B) $\frac{1}{16}$ 　　　　　C) $\frac{1}{14}$ 　　　　　D) $\frac{1}{4}$

19) One marble is white and one marble is blue. 19) _____

A) $\frac{1}{4}$ 　　　　　B) $\frac{1}{2}$ 　　　　　C) $\frac{3}{56}$ 　　　　　D) $\frac{3}{28}$

20) One marble is green and one marble is red. 20) _____

A) $\frac{1}{7}$ 　　　　　B) $\frac{1}{4}$ 　　　　　C) $\frac{1}{2}$ 　　　　　D) $\frac{3}{28}$

Use the table to find the probability.

21) The table shows the number of college students who prefer a given pizza topping.   21) _____

toppings	freshman	sophomore	junior	senior
cheese	16	16	28	21
meat	23	21	16	16
veggie	16	16	23	21

Determine the probability a student prefers meat topping given that student is junior.
A) 0.211   B) 0.277   C) 0.239   D) 0.069

22) The table shows the number of college students who prefer a given pizza topping.   22) _____

toppings	freshman	sophomore	junior	senior
cheese	16	10	28	22
meat	24	22	10	16
veggie	10	16	24	22

Determine the probability a student prefers veggie toppings given that student is junior or senior.
A) 0.209   B) 0.387   C) 0.377   D) 0.639

23) The following table indicates the preference for different types of soft drinks by three age groups.   23) _____

	cola	root beer	lemon–lime
under 21 years of age	40	25	20
between 21 and 40	35	20	30
over 40 years of age	20	30	35

If a person is selected at random, find the probability that the person is over 40 years of age.
A) $\dfrac{2}{5}$ B) $\dfrac{1}{3}$ C) $\dfrac{3}{5}$ D) $\dfrac{1}{2}$

24) The following table indicates the preference for different types of soft drinks by three age groups.   24) _____

	cola	root beer	lemon–lime
under 21 years of age	40	25	20
between 21 and 40	35	20	30
over 40 years of age	20	30	35

If a person is selected at random, find the probability that the person is over 40 and drinks cola.
A) $\dfrac{4}{19}$ B) $\dfrac{4}{17}$

C) $\dfrac{4}{51}$ D) None of the above is correct.

3

25) The following table indicates the preference for different types of soft drinks by three age groups.   25) _____

	cola	root beer	lemon–lime
under 21 years of age	40	25	20
between 21 and 40	35	20	30
over 40 years of age	20	30	35

If a person is selected at random, find the probability that the person is over 40 years of age given that they drink root beer.

A) $\dfrac{5}{17}$

B) $\dfrac{6}{17}$

C) $\dfrac{2}{5}$

D) None of the above is correct.

26) The following table indicates the preference for different types of soft drinks by three age groups.   26) _____

	cola	root beer	lemon–lime
under 21 years of age	40	25	20
between 21 and 40	35	20	30
over 40 years of age	20	30	35

If a person is selected at random, find the probability that the person drinks root beer given that they are over 40.

A) $\dfrac{2}{17}$

B) $\dfrac{6}{17}$

C) $\dfrac{2}{5}$

D) None of the above is correct.

27) The following table contains data from a study of two airlines which fly to Small Town, USA.   27) _____

	Number of flights arrived on time	Number of flights arrived late
Podunk Airlines	33	6
Upstate Airlines	43	5

If a flight is selected at random, find the probability that the flight will arrive on time.

A) $\dfrac{43}{87}$

B) $\dfrac{11}{76}$

C) $\dfrac{76}{87}$

D) None of the above is correct.

28) The following table contains data from a study of two airlines which fly to Small Town, USA.   28) _____

	Number of flights arrived on time	Number of flights arrived late
Podunk Airlines	33	6
Upstate Airlines	43	5

If a flight is selected at random, find the probability that the flight will arrive on time given that they fly with Upstate airlines.

A) $\dfrac{11}{76}$

B) $\dfrac{43}{87}$

C) $\dfrac{43}{48}$

D) None of the above is correct.

29) The following table contains data from a study of two airlines which fly to Small Town, USA.   29) _____

	Number of flights arrived on time	Number of flights arrived late
Podunk Airlines	33	6
Upstate Airlines	43	5

If a flight is selected at random, find the probability that the flight is on Upstate Airline given the flight is late.

A) $\dfrac{5}{87}$

B) $\dfrac{5}{11}$

C) $\dfrac{5}{48}$

D) None of the above is correct.

30) The following table contains data from a study of two airlines which fly to Small Town, USA.   30) _____

	Number of flights arrived on time	Number of flights arrived late
Podunk Airlines	33	6
Upstate Airlines	43	5

If a flight is selected at random, find the probability that the flight will arrive on time and that they fly with Upstate airlines.

A) $\dfrac{43}{87}$

B) $\dfrac{11}{76}$

C) $\dfrac{43}{76}$

D) None of the above is correct.