ch 3 review worksheet

Name_____

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

Find the indicated probability.

1) A bag contains 6 red marbles, 3 blue marbles, and 5 green marbles. If a marble is randomly selected from the bag, what is the probability that it is blue?

A) $\frac{1}{11}$ B) $\frac{3}{14}$ C) $\frac{1}{3}$ D) $\frac{1}{5}$

2) Two 6-sided dice are rolled. What is the probability that the sum of the two numbers on the dice will be 4?

A) $\frac{1}{12}$ B) $\frac{2}{3}$ C) 3 D) $\frac{11}{12}$

3) A die with 8 sides is rolled. What is the probability of rolling a number less than 7?

A) 6 B) $\frac{7}{8}$ C) $\frac{3}{4}$ D) $\frac{1}{8}$

4) A class consists of 49 women and 74 men. If a student is randomly selected, what is the probability that the student is a woman?

A) $\frac{74}{123}$ B) $\frac{49}{123}$ C) $\frac{49}{74}$ D) $\frac{1}{123}$

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

5) Is it "unusual" to get a 12 when a pair of dice is rolled?

A) Yes B) No

6) Assume that a study of 500 randomly selected school bus routes showed that 485 arrived on time. Is it "unusual" for a school bus to arrive late?

A) Yes B) No

Answer the question.

7) If $P(A) = \frac{3}{7}$ then find the odds in favor of A happening.

A) 4 : 3 B) 3 : 7

C) 3 : 4 D) None of the above is correct.

8) If $P(A) = \frac{3}{10}$ then find the odds against A happening.

A) 3 : 10 B) 3 : 7

C) 7 : 3 D) None of the above is correct.

13. The manager of a bank recorded the amount of time each customer spent waiting in line during peak business hours one Monday. The frequency table below summarizes the results

Waiting time	Number of Customers
0-3	15
4-7	9
8-11	13
12-15	8
16-19	7
20-23	2
24-27	2

If we randomly select one of the customers in the table, what is the probability that the waiting time is at least 12 minutes or between 8 and 15 minutes?

A. 0.7 B. 0.571 C. 0.267 D. 0. 536

14. A manufacturing company's products are 70% acceptable. If 3 of the products are randomly selected, find the probability that all of them are acceptable.

A. 0.027 B. 0.343 C. 0.429 D. 2.1

15. In a homicide case 8 different witnesses picked the same man from a line up. The line up contained 5 men. If the identifications were made randomly, find the probability that all 8 would pick the same person.

A. 0.0000128 B. 1.6 C. 0.0000026 D. 0.0000305

16. Find the probability that 2 randomly selected people all have the same birthday. Ignore leap years.

A. 0.0055 B. 0.0027393 C. 0.00000751 D. 0.5

17. A batch consists of 12 defective coils and 88 good ones. Find the probability of getting 2 good coils when 2 coils are randomly selected if the 1^{st} selection is replaced before the 2^{nd} is made.

A. 0.176 B. 0.0144 C. 0.7733 D. 0.7744

18. You are dealt 2 cards successively (without replacement) from a shuffled deck of 52 cards. Find the probability the 1^{st} card is a king and 2^{nd} is a queen.

A. 4/663 B. 1/663 C. 2/13 D. 13/102

19. Among the contestants in a competition are 40 women and 28 men. If 5 winners are randomly selected, what is the probability that they are all men?

A. 0.00943 B. 0.0743 C. 0.14936 D. 0.16807

20. The table below describes the smoking habits of a group of asthma suffers.

	Nonsmokers	Light Smoker	Heavy Smoker	Total
Men	380	31	43	454
Women	400	39	31	470
Total	780	70	74	924

If 2 different people are randomly selected from the 924 subjects, find the probability that they are both women.

A. 0.2585 B. 0.000004527 C. 0.1874 D. 0.2587

21. In a batch of 8,000 clock radios 3% are defective. 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 if a sample of 10 clock radios is randomly selected?

A. 0.0300 B. 0.100 C. 0.263 D. 0.737

22. In a blood testing procedure, blood samples from 3 people are combined into one mixture. The mixture will only test negative if all the individual samples are negative. If the probability that an individual samples tests positive is 0.08, what is the probability that the mixture will test positive?

A. 0.999 B. 0.00640 C. 0.000512 D. 0.221

23. The table below describes the smoking habits of a group of asthma suffers.

Nonsmokers	Light Smoker	Heavy Smoker	Total
Men	400	63	84	547
Women	393	75	60	528
Total	793	138	144	1075

If one of the 1075 subjects is randomly selected, find the probability that the person chosen is a nonsmoker given that it is a women. Round the nearest thousandth.

A. 0.496 B. 0.366 C. 0.744 D. 0.391

24. The table below shows the soft drinks preferences of people in 3 age groups.

	cola	root beer	lemon-lime
under 21	40	25	20
between 21 and 40	35	20	30
over 40	20	30	35

If one of the 224 subjects is randomly selected, find the probability that the person drinks root beer given they are over 40.

A. 2/17 B. 6/17 C. 2/5 D. none are correct

25. How many ways can an IRS auditor select 5 of 12 tax returns for an audit?

A. 248832 B. 120 C. 792 D. 95,040

26) 8 basketball players are to be selected to play in a special game. The players will be selected from a list of 27 players. If the players are selected randomly, what is the probability that the 8 tallest players will be selected?

A) $\frac{1}{213,127,200}$ B) $\frac{1}{40,320}$ C) $\frac{1}{2,220,075}$ D) $\frac{8}{27}$

27) How many ways can 6 people be chosen and arranged in a straight line if there are 8 people to choose from?

A) 48 B) 20,160 C) 40,320 D) 720

28) A tourist in France wants to visit 6 different cities. How many different routes are possible?

A) 6 B) 36 C) 720 D) 120

29) There are 6 members on a board of directors. If they must elect a chairperson, a secretary, and a treasurer, how many different slates of candidates are possible?

A) 216 B) 720 C) 120 D) 20

30) How many 4-digit numbers can be formed using the digits 1, 2, 3, 4, 5, 6, 7 if repetition of digits is not allowed?

A) 840 B) 24 C) 23 D) 2401