

Chapter Test A

For use after Chapter 12

Find the number of permutations or combinations.

1. ${}_5P_4$ 2. ${}_7P_3$ 3. ${}_5C_4$ 4. ${}_7C_3$

5. Find the number of distinguishable permutations of the letters in ERIE.

Expand the power of the binomial.

6. $(x + y)^3$ 7. $(x + 3)^4$ 8. $(x + y)^5$ 9. $(2x - y)^3$

A card is drawn randomly from a standard 52-card deck.**Find the probability of drawing the given card.**

10. a diamond 11. a queen 12. an ace

13. the ten of spades 14. any black ace

Find the indicated probability.

15. $P(A) = \frac{1}{2}$	16. $P(A) = 60\%$	17. $P(A) = \underline{\quad ? \quad}$
$P(A') = \underline{\quad ? \quad}$	$P(B) = 40\%$	$P(B) = 0.8$
	$P(A \text{ or } B) = 100\%$	$P(A \text{ or } B) = 0.7$
	$P(A \text{ and } B) = \underline{\quad ? \quad}$	$P(A \text{ and } B) = 0.6$

Answers

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

15. _____

16. _____

17. _____

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Find the indicated probability.

- 18.
- A
- and
- B
- are independent events.

$$P(A) = 0.5$$

$$P(B) = 0.6$$

$$P(A \text{ and } B) = \underline{\quad ? \quad}$$

- 19.
- A
- and
- B
- are dependent events.

$$P(A) = \underline{\quad ? \quad}$$

$$P(B|A) = 0.6$$

$$P(A \text{ and } B) = 0.06$$

20. Suppose you play the three digit number 917 in your state's lottery. What is the probability you will win? (You must "hit" the number in the exact order.)
21. *ACT Test* One hundred students in your school took the ACT test. Assuming that a normal distribution existed after the results, how many of the students scored within one standard deviation of the mean? (Give the percent and the number.)
22. A normal distribution has a mean of 8 and a standard deviation of 1. Find the probability that a randomly selected x -value is in the interval between 6 and 10.
23. In Exercise 22, what is the probability that the randomly selected x -value is between 8 and 10?
24. Find the mean and standard deviation of a normal distribution that approximates a binomial distribution of 20 trials with a probability of 0.40.
25. Find the number of possible twelve member juries that can be selected from fifteen qualified people.

18. _____

19. _____

20. _____

21. _____

22. _____

23. _____

24. _____

25. _____