

Name \_\_\_\_\_

**13-7B Lesson Master****Questions on SPUR Objectives**  
See Student Edition pages 934–937 for objectives.**VOCABULARY**

1. Define
- independent events*
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2. Give an example of two independent events.

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3. Give an example of two events that are not independent.

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4. State the four criteria for a binomial experiment.

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**USES** Objective J

5. If
- $\binom{n}{r} \cdot p^r \cdot (1 - p)^{n-r}$
- represents the probability that an event occurs exactly
- $r$
- times in
- $n$
- independent trials,
- 
- a. what does the quantity
- $p$
- represent?

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- b. what does the quantity
- $1 - p$
- represent?

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6. Suppose a fair coin is tossed 5 times.

- a. What could the quantity
- $\binom{5}{4}$
- represent? \_\_\_\_\_

- b. What could the quantity
- $2^5$
- represent? \_\_\_\_\_

- c. What could the quantity
- $\binom{5}{4}(0.5)^4(0.5)^1$
- represent? \_\_\_\_\_

In 7 and 8, consider a 5-question multiple-choice quiz with three possible answers per question. If each question is answered by guessing, the probability of correctly answering any one question is  $\frac{1}{3}$ .

7. What is the probability of correctly answering exactly 3 questions? \_\_\_\_\_

8. What is the probability of scoring at least 75% on the quiz? \_\_\_\_\_

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In 9–12, suppose you are taking ten shots from the free-throw line. Recently you've had a 70% probability of making each basket. If this pattern continues, give the probability that you will get

9. exactly 5 baskets. \_\_\_\_\_
10. exactly 7 baskets. \_\_\_\_\_
11. exactly 10 baskets. \_\_\_\_\_
12. at least 7 baskets. \_\_\_\_\_

In 13–16, suppose a fair coin is tossed 12 times. Give the probability of each event.

13. exactly 2 heads. \_\_\_\_\_
14. exactly 6 heads. \_\_\_\_\_
15. exactly 10 tails. \_\_\_\_\_
16. no more than 2 tails. \_\_\_\_\_
17. Consider tossing a coin with  $P(H) = 0.6$ . You toss the coin 5 times. Calculate the probability of
  - a. 0 tails. \_\_\_\_\_
  - b. exactly 1 tail. \_\_\_\_\_
  - c. exactly 2 tails. \_\_\_\_\_
  - d. exactly 3 tails. \_\_\_\_\_
  - e. exactly 4 tails. \_\_\_\_\_
  - f. exactly 5 tails. \_\_\_\_\_
18. Suppose you roll a die. Find the probability of getting
  - a. a 6. \_\_\_\_\_
  - b. a 4. \_\_\_\_\_
  - c. a 2 or a 3. \_\_\_\_\_
  - d. a number less than 4. \_\_\_\_\_
19. The Eagles are playing a four-game series with the Ravens. Suppose there is a 90% probability that the Ravens will win any particular game. Find the probability that the Ravens win
  - a. all four games. \_\_\_\_\_
  - b. exactly three games. \_\_\_\_\_
  - c. exactly one game. \_\_\_\_\_
  - d. none of the games. \_\_\_\_\_
20. A charity routinely sells more tickets for a fund-raising dinner than they expect to serve. Suppose the charity sells 400 tickets. From previous data, they expect that each guest has an 88% chance of showing up for the banquet. Find the probability that more than 398 people show up. \_\_\_\_\_