

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Period: \_\_\_\_\_

### 10-4: Theoretical Probability: Homework and Practice

**Find the probabilities. Write your answer as a fraction, as a decimal, and as a percent.**

1. A bag of beads contains 15 red beads, 15 white beads, 20 green beads, and 25 blue beads. What is the probability of randomly drawing a blue bead?  

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2. A game requires 12 red markers, 12 white markers, 12 purple markers, 12 yellow markers, and 12 green markers. All the markers are the same size and shape. What is the probability of randomly drawing a yellow marker?  

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3. A box of golf balls has 35 golf balls with the company logo and 15 golf balls without the logo. what is the probability of randomly selecting a golf ball **without** the company logo?  

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4. Taylor has a set of 32 cards. There are 16 yellow cards and 16 brown cards in the set. The first 6 cards that Taylor draws are yellow, brown, yellow, yellow, yellow, and brown. Based on these results, what is the probability that the next card he draws will be yellow?  

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5. A standard deck of playing cards has 52 cards divided into four 13-card suites: diamonds, hearts, clubs, and spades.
  - a. What is the probability of drawing a diamond at random?  

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  - b. What is the probability of drawing an ace?  

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**An experiment consists of rolling two fair dice. Find each probability.**

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|---|---|--|
| 6. $P(\text{total shown} = 4)$<br><hr/>     | 7. $P(\text{total shown} = 6)$<br><hr/>     | 8. $P(\text{total shown} = 10)$<br><hr/> |
| 9. $P(\text{total shown} = 11)$<br><hr/>    | 10. $P(\text{total shown} = 1)$<br><hr/>    | 11. $P(\text{total shown} = 5)$<br><hr/> |
| 12. $P(\text{total shown} \geq 2)$<br><hr/> | 13. $P(\text{total shown} \leq 7)$<br><hr/> | 14. $P(\text{total shown} > 8)$<br><hr/> |

## 10-2: Experimental Probability: Homework and Practice

1. Connie is eating with friends at a restaurant. Of the 25 people she sees in the restaurant, 10 are wearing blue jeans, and 15 are not. What is the experimental probability that the next person to come into the restaurant will be wearing blue jeans?

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2. Aldo made 12 of 18 baskets during the first half of the basketball game. What is the experimental probability that he will make the first basket he tries in the second half of the game?

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3. Jeremy surveyed 50 of his fellow students about whether or not they are planning to work during summer break. Of the students he surveyed, 15 said they planned to work.
  - a. What is the experimental probability that the next person surveyed will say he or she plans to work?
  - b. What is the experimental probability that the next person surveyed will say he or she does NOT plan to work?

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4. For the past two weeks, Julia has been recording the number of bicycles parked in front of the gym during volleyball practice. In that time, there have been 32 or more bicycles parked in front of the gym 6 out of 14 days.
  - a. What is the experimental probability that there will be 32 or more bicycles parked in front of the gym on the fifteenth day?
  - b. What is the experimental probability that there will be fewer than 32 bicycles parked in front of the gym on the fifteenth day?

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5. A number cube was thrown 125 times. The results are shown in the table to the right. Complete the table with the experimental probability for each outcome.

Outcome	1	2	3	4	5	6
Frequency	15	25	20	26	18	21
Probability	12%	20%	16%	20.8%	14.4%	16.8%

The school spirit wear shop sells special sweatshirts with the school logo imprinted on them. In sizes small, medium, large, x-large and xx-large. In the first hour the store is open, the first 50 customers buy 2 small, 4 medium, 5 large, 15 x-large and the rest buy xx-large. Find the probability of the purchase of each of the different size sweatshirts from the store.

- a.  $P$  (x-large sweatshirt)      b.  $P$  (medium)      c.  $P$  (xx-large)      d.  $P$  (small or large )

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