

Lesson 3 Homework Practice

Probability of Compound Events

For each situation, find the sample space using a tree diagram.

- choosing blue, green, or yellow wall paint with white, beige, or gray curtains

- choosing a lunch consisting of a soup, salad, and sandwich from the menu shown in the table

| Soup | Salad | Sandwich |
|------------|----------|------------|
| Tortellini | Caesar | Roast Beef |
| Lentil | Macaroni | Ham |
| | | Turkey |

- GAME** Kimiko and Miko are playing a game in which each girl rolls a number cube. If the sum of the numbers is a prime number, then Miko wins. Otherwise Kimiko wins. Find the sample space. Then determine whether the game is fair.

| Sum = 2 | Sum = 3 | Sum = 4 | Sum = 5 | Sum = 6 | Sum = 7 | Sum = 8 | Sum = 9 | Sum = 10 | Sum = 11 | Sum = 12 |
|-------------|----------------------------|---|--|---|--|---|--|--|------------------------------|--------------|
| $1 + 1 = 2$ | $2 + 1 = 3$ $1 + 2 = 3$ | $1 + 3 = 4$ $2 + 2 = 4$ $3 + 1 = 4$ | $1 + 4 = 5$ $2 + 3 = 5$ $3 + 2 = 5$ $4 + 1 = 5$ | $1 + 5 = 6$ $2 + 4 = 6$ $3 + 3 = 6$ $4 + 2 = 6$ $5 + 1 = 6$ | $1 + 6 = 7$ $2 + 5 = 7$ $3 + 4 = 7$ $4 + 3 = 7$ $5 + 2 = 7$ $6 + 1 = 7$ | $2 + 6 = 8$ $3 + 5 = 8$ $4 + 4 = 8$ $5 + 3 = 8$ $6 + 2 = 8$ | $3 + 6 = 9$ $4 + 5 = 9$ $5 + 4 = 9$ $6 + 3 = 9$ | $4 + 6 = 10$ $5 + 5 = 10$ $6 + 4 = 10$ | $5 + 6 = 11$ $6 + 5 = 11$ | $6 + 6 = 12$ |

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Lesson 3 Problem-Solving Practice

Probability of Compound Events

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|--|--|
| <p>1. GASOLINE Craig stops at a gas station to fill his gas tank. He must choose between full-service or self-service and between regular, mid-grade, and premium gasoline. Draw a tree diagram showing the possible combinations of service and gasoline type. How many possible combinations are there?</p> | <p>2. COINS Lorelei tosses a coin 4 times. Draw a tree diagram showing the possible outcomes. What is the probability of getting at least 2 tails?</p> |
| <p>3. COINS In Exercise 2, what is the probability of getting 2 heads, then 2 tails?</p> | <p>4. EQUIPMENT The computer accessory that Grace is considering selling at her store comes in white, beige, gray, or black and as an optical mouse, mechanical mouse, or trackball. How many combinations of color and model must she stock in order to have at least one of every possible combination?</p> |