11.1 Determining Probabilities Using Tree Diagrams and Tables

MathLinks 8, pages 410–418

Key Ideas Review

Match each statement in column A to a term in column B.

A	B
1. Determined from tree diagrams and tables. _____	**a)** probability
2. The probability of A then B occurring. _____	**b)** tree diagrams
3. The number of favourable outcomes divided by the total number of possible outcomes. _____	**c)** $P(A, B)$
4. The probability both A and B occurring. _____	**d)** probabilities
5. Used to show sample space for a probability experiment. _____	**e)** $P(A$ then $B)$

Practise and Apply

6. The following tree diagram shows the sample space for flipping a coin and rolling a six-sided die. Fill in the outcome column.
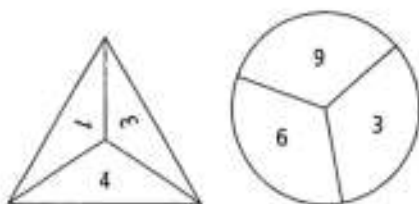
Coin Flip	Spin	Outcome
Heads	1 2 3 4 5 6	
Tails	1 2 3 4 5 6	
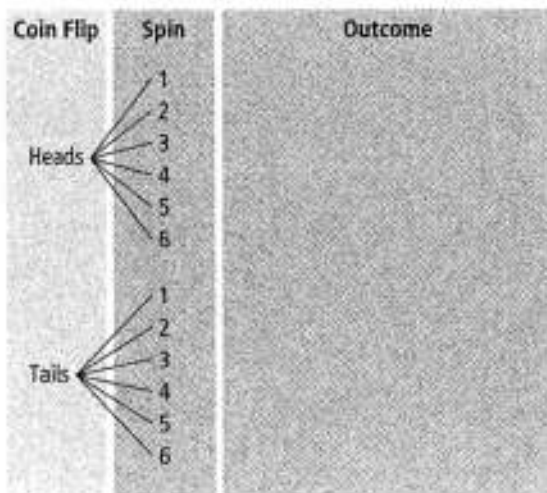
a) What is $P(H, 6)$?

b) What is $P(T,$ odd number$)$?

c) What is $P(H, 7)$?

7. A four-sided die labelled 1, 2, 3, and 4 is rolled and a spinner labelled 3, 6, and 9 is spun.

a) Create a table to show the sample space.

b) What is P(sum even number)?

8. Each week Sam (H) and Lacy (T) choose chores by flipping a coin and spinning a spinner.

a) Draw a tree diagram to show the sample space.

b) What is the probability that Sam will have to do dishes this week?

9. In this card game there are two identical sets of six cards. You pick up a card from each set. The idea of the game is to make a sum of 10.

a) Create a table to show all the combinations.

b) What is P(3, 3)?

10. Trey chooses his outfits by spinning this spinner twice. The first spin is for the colour of pants and the second spin is for the colour of shirt.
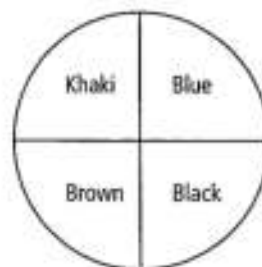
a) Show the sample space.

b) What is P(same colour)?

11.2 Outcomes of Independent Events
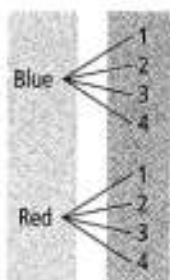
MathLinks 8, pages 419–425

Key Ideas Review

Use the diagrams to fill in the blanks for #1.

1. Name the methods shown that can be used to determine the possible number of outcomes.

	1	2	3	4
Blue	B, 1	B, 2	B, 3	B, 4
Red	R, 1	R, 2	R, 3	R, 4

$2 \times 4 = 8$

a) _____
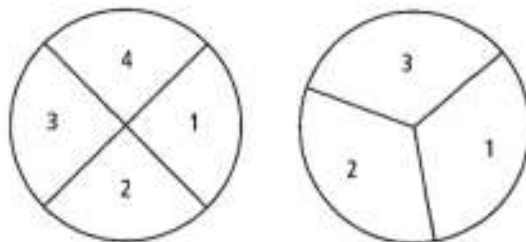
b) _____

c) _____

Practise and Apply

2. Christine is making her lunch. She can choose strawberry, peach, or raspberry yogurt and an apple, an orange, grapes, or a banana. She picks one yogurt and one piece of fruit.

a) Draw a tree diagram to show the sample space.

b) How many possible outcomes are there?

c) Check your answer using multiplication.

3. A new game uses the following two spinners.

a) Use multiplication to determine the total number of possible outcomes.

b) Check your answer using another method.

4. Aira is ordering pizza for her birthday party. There are three choices for crusts (thin, regular, stuffed), two choices for meat (pepperoni or ham), and four choices for toppings (mushrooms, pineapple, green peppers, extra cheese).

5. Use a tree diagram and multiplication to find the outcomes of these three events.

   a) Tree diagram:

a) Draw a tree diagram to show how many different types of pizza she can order.
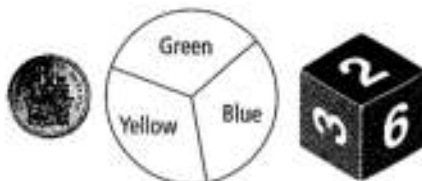
   Multiplication:

b) Verify the number of pizzas using multiplication.

   b) How many possible outcomes are there?

   6. a) Create a question that would give the following number of possible outcomes: $2 \times 5 \times 3 = 30$.

c) If one of the guests is allergic to mushrooms, how many pizzas can Aira order? Use multiplication to verify your answer. Show your work.

   b) Draw a tree diagram to verify the number of possible outcomes.