

Sample Space Diagrams

ANSWERS

1

Add the scores on two fair spinners.
Find $P(\text{total is 4})$.

+	1	2	3
1	2	3	4
2	3	4	5
3	4	5	6

$$P(\text{total is 4}) = \frac{3}{9}$$

totals that are 4
all the squares in the grid

2

Add the scores on two fair spinners.
Find $P(\text{total is 5})$.

+	1	2	3	4
1	2	3	4	5
2	3	4	5	6

$$P(\text{total is 5}) = \frac{2}{8}$$

totals that are 5
all the squares in the grid

3

Add the scores on two fair spinners.
Find $P(\text{total is 6})$.

+	1	2	3	4
1	2	3	4	5
2	3	4	5	6
3	4	5	6	7

$$P(\text{total is 6}) = \frac{2}{12}$$

totals that are 6
all the squares in the grid

4

Add the scores on two fair spinners.
Find $P(\text{total is 6})$.

+	1	2	3	4
1	2	3	4	5
2	3	4	5	6
3	4	5	6	7
4	5	6	7	8

$$P(\text{total is 6}) = \frac{3}{16}$$

totals that are 6
all the squares in the grid

5

Add the scores on two fair spinners.
Find $P(\text{total is 5})$.

+	1	2	3	4	5
1	2	3	4	5	6
2	3	4	5	6	7
3	4	5	6	7	8

$$P(\text{total is 5}) = \frac{3}{15}$$

totals that are 5
all the squares in the grid

6

Add the scores on two fair spinners.
Find $P(\text{total is 3})$.

+	1	2	3	4
1	2	3	4	5
2	3	4	5	6
3	4	5	6	7
4	5	6	7	8

$$P(\text{total is 3}) = \frac{2}{16}$$

totals that are 3
all the squares in the grid

7

Mo adds the scores on two fair spinners. He wins with a total of 5. Find $P(\text{Mo wins})$.

+	1	2	3	4
1	2	3	4	5
2	3	4	5	6
3	4	5	6	7

$$P(\text{Mo wins}) = \frac{3}{12}$$

totals that are 5
all the squares in the grid

8

Add the scores on two fair spinners.
Which total has a probability of $\frac{3}{9}$?

+	1	2	3
1	2	3	4
2	3	4	5
3	4	5	6

$$P(\text{total is 4}) = \frac{3}{9}$$

Sample Space Diagrams *further practice*

ANSWERS

9



Add the scores on two fair spinners.
Find $P(\text{total is } 6)$.

+	1	2	3	4	5
1	2	3	4	5	6
2	3	4	5	6	7
3	4	5	6	7	8
4	5	6	7	8	9

$$P(\text{total is } 6) = \frac{4}{20}$$

totals that are 6
all the squares in the grid

10



Add the scores on these fair spinners. Find $P(\text{total is } 4)$.

+	1	2	3	4
1	2	3	4	5
2	3	4	5	6
3	4	5	6	7

$$P(\text{total is } 4) = \frac{3}{12}$$

totals that are 4
all the squares in the grid

11



A fair coin is flipped and a fair spinner is spun.
Write each outcome, like H1.
Find $P(H3)$.

	1	2	3	4
H	H1	H2	H3	H4
T	T1	T2	T3	T4

$$P(H3) = \frac{1}{8}$$

squares that are H3
all the squares in the grid

12



In a board game, Ana adds the scores on two fair dice.
Find $P(\text{total is } 7)$.

+	1	2	3	4	5	6
1	2	3	4	5	6	7
2	3	4	5	6	7	8
3	4	5	6	7	8	9
4	5	6	7	8	9	10
5	6	7	8	9	10	11
6	7	8	9	10	11	12

$$P(\text{total is } 7) = \frac{6}{36}$$

totals that are 7
all the squares in the grid

13



Add the scores on two fair spinners.
Find $P(\text{total is more than } 5)$.

+	1	2	3	4
1	2	3	4	5
2	3	4	5	6
3	4	5	6	7

All: 12. More than 5: 6, 6, 7, so 3

Answer $\frac{3}{12}$

14



Multiply the scores on two fair spinners. Find $P(\text{score is } 6)$.

×	1	2	3
1	1	2	3
2	2	4	6
3	3	6	9

All: 9. Ones that are 6: 2

Answer $\frac{2}{9}$

15



In a game, Kit adds the scores on two fair spinners. Which total is most likely?

+	1	2	3	4
1	2	3	4	5
2	3	4	5	6
3	4	5	6	7
4	5	6	7	8

5 is in the grid 4 times

Answer 5

16



Sam says $P(\text{total is } 4) = \frac{3}{5}$.
What has Sam done wrong?

+	1	2	3
1	2	3	4
2	3	4	5
3	4	5	6

The bottom should be

9, all the squares in the grid, not 5.

Right answer $\frac{3}{9}$