

List outcomes in a sample space diagram (two-way table) and calculate probabilities

Maths

Mrs Dennett



List outcomes in a sample space diagram

1. A dice is rolled and a fair coin is tossed.

Copy and complete the sample space.

	1	2	3	4	5	6
H		2H		4H		6H
T					5T	

Use the table to find the probability of getting an even number and a head.

2. The table shows the results of a survey about how students travel to school.

	Walk	Bus	Car	Total
Boy	13	24	30	67
Girl	10	23	35	68
Total	23	37	65	135

A student is picked at random.

Work out

- P(a girl who walks)
- P(a boy who does not get the bus)
- P(a student who travels by car)



List outcomes in a sample space diagram

3. Two dice are rolled.

The numbers are multiplied together to get a score.

	1	2	3	4	5	6
1						
2		4				
3						
4						24
5			15			
6						

a) Copy and complete the sample space.

b) Find the probability of getting

- an even score
- a square number score.

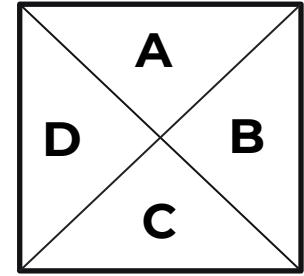
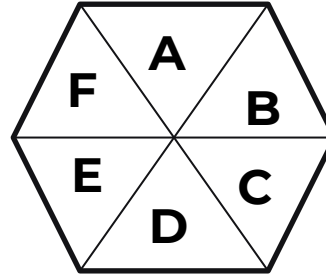


List outcomes in a sample space diagram

4. Two fair dice are rolled and the numbers are added together.

Which score is the most likely to occur?

5. Mo spins these two spinners.



Find the probability that

- a) he gets two of the same letter.
- b) he gets at least one letter B.



Answers



List outcomes in a sample space diagram

1. A dice is rolled and a fair coin is tossed.

Copy and complete the sample space.

	1	2	3	4	5	6
H	1H	2H	3H	4H	5H	6H
T	1T	2T	3T	4T	5T	6T

Use the table to find the probability of getting an even number and a head.

$$\frac{3}{12}$$

2. The table shows the results of a survey about how students travel to school.

	Walk	Bus	Car	Total
Boy	13	24	30	67
Girl	10	23	35	68
Total	23	37	65	135

A student is picked at random.

Work out

a) P(a girl who walks) $\frac{10}{135}$

b) P(a boy who does not get the bus) $\frac{43}{135}$

c) P(a student who travels by car) $\frac{65}{135}$



List outcomes in a sample space diagram

3. Two dice are rolled.

The numbers are multiplied together to get a score.

	1	2	3	4	5	6
1	1	2	3	4	5	6
2	2	4	6	8	10	12
3	3	6	9	12	15	18
4	4	8	12	16	20	24
5	5	10	15	20	25	30
6	6	12	18	24	30	36

a) Copy and complete the sample space.

b) Find the probability of getting

- an even score $\frac{27}{36}$
- a square number score. $\frac{8}{36}$



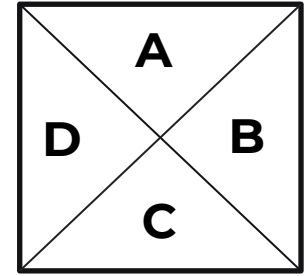
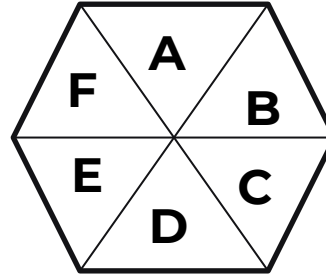
List outcomes in a sample space diagram

4. Two fair dice are rolled and the numbers are added together.

Which score is the most likely to occur?

7 as there are more combinations that make 7.

5. Mo spins these two spinners.



Find the probability that

a) he gets two of the same letter.

$$\frac{4}{24}$$

b) he gets at least one letter B.

$$\frac{9}{24}$$

