GCSE FOUNDATION · REVISION MAT 1

Sample space diagrams

1 Two dice are used and the total is recorded.

Complete the sample space diagram.

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

2 Two dice are used and the total is recorded.

+	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

Find the probability that the total is 7.

3 Two dice are used and the total is recorded.

+	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

Explain why a total of 7 is more likely than a total of 2.

4 Two dice are used and the total is recorded.

+	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

Show that P(total is even) = $\frac{1}{2}$

5 Spinner A has numbers 1, 2, 3.
Spinner B has numbers 1, 2, 3, 4.
Ella wins if the difference is 2 or more.

Work out the probability that Ella wins.

6 A coin is flipped and a 6-sided dice is rolled.

(a) How many outcomes are there?

(b) Find P(heads and an even number).

Mr&Mrs MATHS

ANSWERS · REVISION MAT 1

Sample space diagrams

1

+	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**

2 6 out of 36

$\frac{1}{6}$

3 7 appears **6** times in the diagram, 2 appears only **1** time.

4 18 out of 36 outcomes

$\frac{18}{36} = \frac{1}{2}$ ✓

5

−	1	2	3	4
1	0	1	2	3
2	1	0	1	2
3	2	1	0	1

4 out of 12: $\frac{1}{3}$

6 (a) $2 \times 6 = 12$

(b) 3 out of 12: $\frac{1}{4}$

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