GCSE FOUNDATION · REVISION MAT 3

Sample space diagrams

1 Two dice are used and the difference is recorded.

Complete the sample space diagram.

–	1	2	3	4	5	6
1	0	1	2	3	4	5
2		0	1		3	4
3	2	1		1	2	
4	3		1	0		2
5		3	2		0	1
6	5	4		2	1	

2 Two dice are used and the difference is recorded.

–	1	2	3	4	5	6
1	0	1	2	3	4	5
2	1	0	1	2	3	4
3	2	1	0	1	2	3
4	3	2	1	0	1	2
5	4	3	2	1	0	1
6	5	4	3	2	1	0

Find the probability that the difference is 1.

3 Two dice are used and the difference is recorded.

–	1	2	3	4	5	6
1	0	1	2	3	4	5
2	1	0	1	2	3	4
3	2	1	0	1	2	3
4	3	2	1	0	1	2
5	4	3	2	1	0	1
6	5	4	3	2	1	0

Explain why a difference of 1 is more likely than a difference of 5.

4 Two dice are used and the difference is recorded.

–	1	2	3	4	5	6
1	0	1	2	3	4	5
2	1	0	1	2	3	4
3	2	1	0	1	2	3
4	3	2	1	0	1	2
5	4	3	2	1	0	1
6	5	4	3	2	1	0

Show that P(difference is 0) = $\frac{1}{6}$

5 Spinner A has numbers 1, 3, 5. Spinner B has numbers 2, 4.
Ella wins if the product is more than 10.

Work out the probability that Ella wins.

6 A coin is flipped and a 4-sided dice is rolled.

(a) How many outcomes are there?

(b) Find P(heads and a 3).

Mr&Mrs MATHS

ANSWERS · REVISION MAT 3

Sample space diagrams

1

–	1	2	3	4	5	6
1	0	1	2	3	4	5
2	1	0	1	2	3	4
3	2	1	0	1	2	3
4	3	2	1	0	1	2
5	4	3	2	1	0	1
6	5	4	3	2	1	0

2 10 out of 36

$\frac{5}{18}$

3 1 appears **10** times in the diagram, 5 appears only **2** times.

4 6 out of 36 outcomes

$\frac{6}{36} = \frac{1}{6}$ ✓

5

×	2	4
1	2	4
3	6	12
5	10	20

2 out of 6: $\frac{1}{3}$

6 (a) $2 \times 4 = 8$

(b) 1 out of 8: $\frac{1}{8}$

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