GCSE HIGHER · REVISION MAT 5

Sample spaces

1 Two of A, B and C are chosen (order does not matter).

List the possible pairs.

2 Two spinners numbered 1 to 3 are spun and added.

Find P(total 4).

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

3 Explain why a sample space diagram helps you find probabilities.

4 Two dice are rolled.

Find P(total < 5).

+	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

5 Show that flipping 4 coins gives 16 outcomes.

6 Find P(the total is a square number).

+	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

7 Two dice are rolled and the scores multiplied.

Show that P(product is odd) = $\frac{1}{4}$.

×	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

8 A family has three children.

Each is equally likely to be a boy or a girl.

Find P(at least two girls).

Mr&Mrs MATHS

ANSWERS · REVISION MAT 5

Sample spaces

1 AB, AC, BC

2 $\frac{3}{9} = \frac{1}{3}$

3 It shows every equally likely outcome, so you can count.

4 Totals 2, 3, 4: 1 + 2 + 3

$\frac{6}{36} = \frac{1}{6}$

5 $2^4 = 16$

6 4: 3 ways, 9: 4 ways

$\frac{7}{36}$

7 Odd × odd: 3 × 3 = 9

$\frac{9}{36} = \frac{1}{4}$

8 GGG, GGB, GBG, BGG out of 8

$\frac{1}{2}$

Mr&Mrs MATHS