GCSE HIGHER · REVISION MAT 3

Sample spaces

1 Starters: soup (S) or pâté (P).

Mains: fish (F), chicken (C) or veggie (V).

List all the possible meals.

2 Two dice are rolled and the scores multiplied.

Find P(product = 12).

×	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

3 Explain why a sample space for two different dice has 6 × 6 cells.

4 Two coins are flipped and a dice is rolled.

How many outcomes are there?

Find P(two heads and a 6).

5 Show that

P(the total of two dice is 2) = $\frac{1}{36}$.

6 Two dice are rolled.

Find P(at least one 6).

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

7 Show that

P(the total is odd) = $\frac{1}{2}$.

+	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

8 Spinner A is numbered 1 to 3 and spinner B 1 to 4.

The score is A × B.

Find P(the score is a multiple of 3).

×	1	2	3	4
1	1	2	3	4
2	2	4	6	8
3	3	6	9	12

Mr&Mrs MATHS

ANSWERS · REVISION MAT 3

Sample spaces

1 SF, SC, SV, PF, PC, PV

2 (2, 6), (3, 4), (4, 3), (6, 2)

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

3 Every score on one dice pairs with every score on the other.

4 $2 \times 2 \times 6 = 24$

$\frac{1}{24}$

5 Only (1, 1) gives 2.

6 Row 6 and column 6: $6 + 6 - 1 = 11$

$\frac{11}{36}$

7 18 odd totals out of 36

$\frac{1}{2}$

8 Row A = 3: 4; column B = 3: 2 more

$\frac{6}{12} = \frac{1}{2}$

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