GCSE HIGHER · REVISION MAT 5

Probabilities that sum to 1

1 P(scoring a goal) = 0.65.

Find P(not scoring).

2 Find x.

Outcome	A	B	C	D
Probability	0.12	0.28	x	0.35

3 Explain why P(A) = 1.2 is impossible.

4 In a box, P(dark chocolate) = 0.3 and P(milk) = 0.45.

The other 10 chocolates are white.

How many chocolates are in the box?

5 P(rain) = 0.4 each day, independently.

Show that

P(no rain on either day) = 0.36.

6 A fair spinner is numbered 1 to 10.

Find P(not a multiple of 3).

7 Explain why

P(at least one head in 3 flips) = 1 – P(no heads).

8 P(even) = 0.45.

Find x and y.

Score	1	2	3	4	5	6
Probability	x	x	x	y	y	0.1

Mr&Mrs MATHS

ANSWERS · REVISION MAT 5

Probabilities that sum to 1

1 **0.35**

2 $x = 0.25$

3 **Probabilities are always between 0 and 1.**

4 P(white) = 0.25

40

5 **0.6 × 0.6 = 0.36**

6 Multiples: 3, 6, 9

$\frac{7}{10}$

7 **'At least one head' is everything except 'no heads'.**

8 $x + y + 0.1 = 0.45$

$3x + 2y + 0.1 = 1$

$x = 0.2$, $y = 0.15$