GCSE FOUNDATION · REVISION MAT 3

Probabilities that add to 1

1 The probability that a team wins is 0.58.

Work out the probability that it does **not** happen.

2 The table shows the probabilities for a biased spinner.

Outcome	A	B	C
Probability		0.42	0.27

Work out the missing probability.

3 Cat says the probabilities of the three outcomes of an experiment are 0.6, 0.2, 0.3.

Explain why Cat must be wrong.

4 A spinner can land on Win, Lose or Draw.
P(Win) = x, P(Lose) = $4x$, P(Draw) = 0.25

Show that $x = 0.15$

5 A spinner can land on Win, Lose or Draw.
P(Win) = x, P(Lose) = $4x$, P(Draw) = 0.25

The spinner is spun 60 times.

How many times would you expect it to land on Lose?

6 A bag has 36 counters.
They are red, blue or green.
P(red) = 0.25.
There are 2 times as many blue counters as green counters.

How many counters of each colour are there?

Mr&Mrs MATHS

ANSWERS · REVISION MAT 3

Probabilities that add to 1

1 $1 - 0.58 = \mathbf{0.42}$

2 $1 - (0.42 + 0.27) = \mathbf{0.31}$

3 The probabilities of all the outcomes must add up to 1.

$0.6 + 0.2 + 0.3 = 1.1$, which is more than 1.

4 $5x + 0.25 = 1$

$5x = 0.75$

$x = \mathbf{0.15}$ ✓

5 $x = 0.15$, so P(Lose) = 0.6

$0.6 \times 60 = \mathbf{36}$

6 Red: $0.25 \times 36 = 9$

Blue and green: 27, split 2 : 1

Blue **18**, green **9**, red **9**