GCSE FOUNDATION · REVISION MAT 2

Relative frequency and fairness

1 A dice is rolled 200 times.

Score	1	2	3	4	5	6
Frequency	32	28	35	25	30	50

Work out the relative frequency of rolling a 6.

2 A fair dice is rolled 120 times.

How many times would you expect to get a 6?

3 A dice is rolled 200 times.

Score	1	2	3	4	5	6
Frequency	32	28	35	25	30	50

Is the dice fair? Explain your answer.

4 A coin is flipped 80 times.
It lands on heads 36 times.

Show that the relative frequency of heads is 0.45.

5 Ali spins a spinner 30 times and gets red 12 times.
Bea spins the same spinner 300 times and gets red 105 times.

(a) Whose results give the better estimate of P(red)? Why?

(b) Use all the results to estimate P(red).

6 A bag has 40 counters, some red and some blue.
Zara takes a counter, records its colour and puts it back. She does this 100 times.

She gets red 35 times.

Estimate how many red counters are in the bag.

Mr&Mrs MATHS

ANSWERS · REVISION MAT 2

Relative frequency and fairness

1 $\frac{50}{200} = \frac{1}{4} \approx 0.25$

2 $\frac{1}{6} \times 120 = \mathbf{20}$

3 Expected about 33 of each.
Probably biased: one score comes up much more often than the others.

4 $36 \div 80 = \mathbf{0.45}$ ✓

5 (a) **Bea's**: she did more trials.

(b) $(12 + 105) \div (30 + 300) = \frac{\mathbf{39}}{\mathbf{110}} \approx 0.35$

6 Relative frequency of red = $35 \div 100 = 0.35$

$0.35 \times 40 \approx \mathbf{14}$

Mr&Mrs MATHS