GCSE FOUNDATION · REVISION MAT 5

Expected outcomes

1 The probability that an item will be a winning ticket is 0.08.

There are 250 trials.

How many times would you expect it to be a winning ticket?

2 A fair dice is rolled 240 times.

How many times would you expect to roll a 2?

3 Wes rolls a fair dice 60 times and gets 14 sixes.

Wes expected 10. Explain why the results are different.

4 The probability of winning a game is 0.25.

Show that you would expect to win 30 times in 120 games.

5 A game costs 50p to play. The probability of winning is 0.2. A winner gets £2.

The game is played 150 times.

How much profit should the owner expect?

6 A sample of 80 items is taken from a batch of 2000.

28 of the sample are green marbles.

Estimate the number of green marbles in the whole batch.

Mr&Mrs MATHS

ANSWERS · REVISION MAT 5

Expected outcomes

1 $0.08 \times 250 = \mathbf{20}$

2 $\frac{1}{6} \times 240 = \mathbf{40}$

3 Expected results are only what happens on average in the long run.

Results vary by chance, especially with a small number of trials.

4 $0.25 \times 120 = \mathbf{30}$ ✓

5 Money in: 150 × £0.50 = £75.00

Expected winners: 0.2 × 150 = 30, paid £60.00

Profit ≈ **£15.00**

6 $28 \div 80 \times 2000 = \mathbf{700}$