GCSE FOUNDATION · REVISION MAT 3

Expected outcomes

1 The probability that an item will be faulty is 0.15.

There are 200 trials.

How many times would you expect it to be faulty?

2 A fair dice is rolled 300 times.

How many times would you expect to roll a 5?

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

Uma expected 10. Explain why the results are different.

4 The probability of winning a game is 0.45.

Show that you would expect to win 9 times in 20 games.

5 A game costs 20p to play. The probability of winning is 0.12. A winner gets £1.

The game is played 300 times.

How much profit should the owner expect?

6 A sample of 60 items is taken from a batch of 900.

15 of the sample are blue beads.

Estimate the number of blue beads in the whole batch.

Mr&Mrs MATHS

ANSWERS · REVISION MAT 3

Expected outcomes

1 $0.15 \times 200 = \mathbf{30}$

2 $\frac{1}{6} \times 300 = \mathbf{50}$

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 $0.45 \times 20 = \mathbf{9}$ ✓

5 Money in: 300 × £0.20 = £60.00

Expected winners: 0.12 × 300 = 36, paid £36.00

Profit ≈ **£24.00**

6 $15 \div 60 \times 900 = \mathbf{225}$