GCSE FOUNDATION · REVISION MAT 4

Expected outcomes

1 The probability that an item will be late is 0.4.

There are 60 trials.

How many times would you expect it to be late?

2 A fair dice is rolled 60 times.

How many times would you expect to roll a 1?

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

Vic expected 10. Explain why the results are different.

4 The probability of winning a game is 0.6.

Show that you would expect to win 30 times in 50 games.

5 A game costs £2.00 to play. The probability of winning is 0.12. A winner gets £10.

The game is played 100 times.

How much profit should the owner expect?

6 A sample of 25 items is taken from a batch of 750.

4 of the sample are faulty pens.

Estimate the number of faulty pens in the whole batch.

Mr&Mrs MATHS

ANSWERS · REVISION MAT 4

Expected outcomes

1 $0.4 \times 60 = \mathbf{24}$

2 $\frac{1}{6} \times 60 = \mathbf{10}$

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 $0.6 \times 50 = \mathbf{30}$ ✓

5 Money in: $100 \times £2.00 = £200.00$

Expected winners: $0.12 \times 100 = 12$, paid £120.00

Profit ≈ **£80.00**

6 $4 \div 25 \times 750 = \mathbf{120}$