GCSE FOUNDATION · REVISION MAT 2

Expected outcomes

1 The probability that an item will win is 0.35.

There are 80 trials.

How many times would you expect it to win?

2 A fair dice is rolled 90 times.

How many times would you expect to roll a 3?

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

Tia expected 10. Explain why the results are different.

4 The probability of winning a game is 0.15.

Show that you would expect to win 9 times in 60 games.

5 A game costs £1.00 to play. The probability of winning is 0.15. A winner gets £5.

The game is played 120 times.

How much profit should the owner expect?

6 A sample of 50 items is taken from a batch of 1200.

8 of the sample are broken biscuits.

Estimate the number of broken biscuits in the whole batch.

Mr&Mrs MATHS

ANSWERS · REVISION MAT 2

Expected outcomes

1 $0.35 \times 80 = \mathbf{28}$

2 $\frac{1}{6} \times 90 = \mathbf{15}$

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 $0.15 \times 60 = \mathbf{9}$ ✓

5 Money in: $120 \times £1.00 = £120.00$

Expected winners: $0.15 \times 120 = 18$, paid £90.00

Profit ≈ **£30.00**

6 $8 \div 50 \times 1200 = \mathbf{192}$