PROBABILITY
SINGLE EVENTS

NO CALCULATOR

Ref: G510. **1R1**

A1 Cameron throws a fair coin. He gets a Head.

Cameron's sister then throws the same coin.

What is the probability that she will get a Head?

A2 Damien throws a coin 30 times. Explain why he may not get exactly 15 Heads and 15 Tails.

A3 Lucas throws a bias coin 180 times. It lands on tails 120 times.

Lucas throws the coin once more.

Work out an estimate for the probability that it will show **heads**.

A4 Serena throws a fair coin three times and gets two heads and a tail.

Serena's then throws the same coin once more.

What is the probability that the coin will land on heads?

B1 Every morning Joanne eats one of cereal, toast or croissants.

$P(cereal) = 0.45$

$P(croissants) = 0.3$

Find P(toast)

B2 Rosie throws a coin 1000 times. She gets heads 490 times.

State, with a reason, whether the coin is fair.

B3 In a class of 30 students, 6 of the students are left handed and 9 of the students wear glasses.

Anthony says 'the probability that a student is left-handed or wears glasses is 0.5'

State, with a reason, whether Anthony is right.

B4 Millie takes a bead at random from a bag. The probability that she will take a red bead is 0.3

There are 120 beads in the bag.

How many red beads are there in the bag?

C1 Felix throws a dice 600 times. He scores six 200 times.

Is the dice fair?

Explain your answer.

C2 Amy spins a spinner once.

P(she scores 4) = 0.3

If Amy were to spin the spinner 200 times, work out an estimate for the number of times that she would score 4

C3 A bag contains some red beads, black beads and yellow beads. Sarah takes a bead at random from the bag.

$P(red) = 0.3$

$P(black) = P(yellow)$

Find P(yellow)

C4 A bag contains 10 coloured counters.

James is going to take at random, a counter from the bag.

He states "The probability that I will take a red counter is 0.25".

Explain why James is wrong.