Practice worksheet | Probability

Larger simulations and variation

Name: _____ Date: _____

6 questions | 11 marks

1. For the supplied 100-trial simulation, check that heads and tails add to the trial count. [1 mark]

Supplied simulated fair-coin results

Trials	Heads	Tails
20	14	6
100	54	46
500	260	240

2. Find the heads percentage in the 500-trial simulation. [2 marks]

Supplied simulated fair-coin results

Trials	Heads	Tails
20	14	6
100	54	46
500	260	240

3. Which supplied simulation has a heads relative frequency closest to 50%? [2 marks]

Supplied simulated fair-coin results

Trials	Heads	Tails
20	14	6
100	54	46
500	260	240

4. A simulation cycles heads, tails, heads, tails without any random choice. Why is that unsuitable for demonstrating random variation? [2 marks]

5. Suggest a fair-die rule to simulate an event with probability $\frac{1}{3}$. [2 marks]

6. A larger experiment records 51% successes after a smaller experiment recorded 50%. Does this contradict the idea that larger experiments tend to be more stable? [2 marks]