Year 11 Mathematics Advanced

Topic: Probability and Data (5 of 5)

Review Questions: Mixed one-off exam questions

Term 3, 2026

How to use this set

These are real past-paper questions on probability and data that do not fit any one recurring pattern: genuine one-offs. They are here so you also meet the rarer, less predictable exam questions. Work through them once you are solid on the patterns in the main review docs. Every question you get wrong or struggle with goes in your **Mistakes Log**.

Mixed one-off exam questions

Q1 Girraween 2020 Trial Q13 · **2 marks**

A certain poker machine with 3 wheels has 10 fruit symbols on each wheel. The first wheel has 4 cherries on it, the second has 2 cherries on it and the third wheel has 5 cherries on it. Find

(a) the number of arrangements which contain 3 cherries.

(b) the probability of obtaining 3 cherries on the viewing line.

Q2 Hurlstone 2024 Trial Q34 · **2 marks**

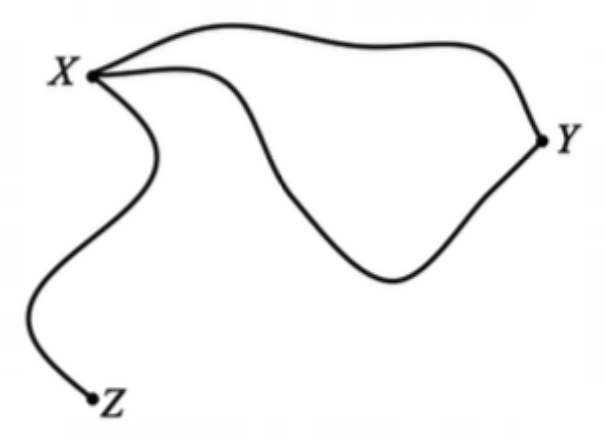
A credit card requires a six-figure personal identification number (PIN) for purchases. The figures are chosen from the digits $0, 1, 2, 3, \ldots, 9$. Repetition is allowed and the PIN can start with any of the 10 digits. The credit card is lost and the finder tries to guess the PIN by entering six digits.

(a) What is the probability that the six digits entered are the correct PIN?

(b) What is the probability that the finder will guess at least one digit in its correct position?

Q3 Sydney Boys 2022 Trial Q5 · **1 mark**

The figure shows three towns X, Y and Z. There are three roads out of town X and two roads out of town Y.



Mr Kent and Mr Wayne leave town X and town Y respectively at the same time. If they select their ways randomly, what is the probability that they will meet on their way?

(A) $\frac{1}{6}$

(B) $\frac{1}{3}$

(C) $\frac{1}{2}$

(D) $\frac{2}{3}$

Q4 Hunters Hill 2023 Trial Q13 · **3 marks**

Steven picks two notes at random from five \$5, three \$10 and two \$20 notes.

(a) What is the probability that Steven has picked a total of \$20 or more?

(b) Given that at least one of the notes is a \$10 note, what is the probability that Steven has picked a total of \$20 or more?

Q5 Killara 2023 Prelim Q10 · **1 mark**

A game show host puts two balls randomly into three different boxes (each box may contain 0 balls, 1 ball or 2 balls). Participants of the game can choose to open any two of the three boxes. If two balls are drawn, they can get a prize. Find the probability that the participant can get a prize.

(A) $\frac{1}{3}$

(B) $\frac{2}{3}$

(C) $\frac{4}{9}$

(D) $\frac{5}{9}$