

Q1. (2017)

- 5 A code has 4 digits.
Each digit is a number from 0 to 9
Digits may be repeated.

The code starts 5 4 1

5	4	1	
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(A)

- 5 (a) Amy knows the last digit is odd but **not** 7
She chooses a different odd number at random.
What is the probability that she chooses the correct number?

[1 mark]

(B)

- 5 (b) The 4-digit code is changed to an even number.
The first digit is 3
How many possible codes are there?

[2 marks]

Q2. (2018)

- 7 On three days, Ali throws darts at a target.
Here are his results.

	Number of throws	Number of hits	Number of misses
Monday	20	15	5
Tuesday	30	22	8
Wednesday	40	17	23
Total	90	54	36

(A)

- 7 (a) Work out **two** different estimates for the probability of Ali hitting the target.

[2 marks]

Answer _____ and _____

(B)

- 7 (b) Which of your two answers is the better estimate for the probability of Ali hitting the target?
Give a reason for your answer.

[1 mark]

Answer _____

Reason _____

Q3. (2019)

- 12 A biased coin is thrown 250 times.
The relative frequency of Heads is worked out after every 50 throws.

Total number of throws	50	100	150	200	250
Relative frequency	0.4	0.29	0.4	0.32	0.3

Circle the best estimate of the probability of Heads.

[1 mark]

0.3 0.32 0.342 0.4

Q4. (2019)

- 18 In a bag there are blue discs, green discs and white discs.

There are four times as many blue discs as green discs.
number of blue discs : number of white discs = 3 : 5

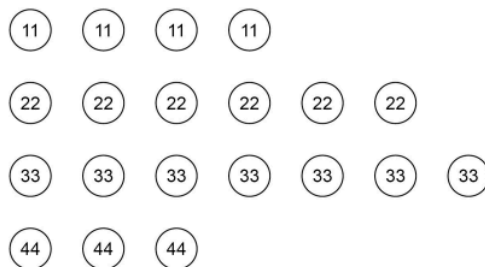
One disc is selected at random.

Work out the probability that the disc is either blue or white.

[3 marks]

Q5. (2020)

- 27 These 20 discs are in a bag.



Two of the discs are taken at random from the bag.

Work out the probability that the first disc has a **smaller** number than the second disc.

[4 marks]

Q6. (2022)

- 2 Circle the expression that means the probability of A and **not** B.

[1 mark]

$P(A' \cup B)$

$P(A \cup B')$

$P(A' \cap B)$

$P(A \cap B')$

Q7. (2023)

23 Here are three sets of cards.

Set A

1

1

3

5

5

5

6

8

Set B

1

2

4

6

8

8

9

Set C

3

4

5

6

In a game, a player has two options.

Option 1

Pick two cards from Set A

Option 2

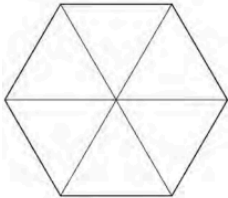
Pick one card from Set B
and
pick one card from Set C

The cards are picked at random.
The player wins if the total of their two cards is exactly 10

Q8. (2024)

- 4 (a) A fair spinner has six equal sections, each with the number 5, 6, 7 or 8
Each number appears at least once.
 $P(\text{even number}) = P(7)$
Work out $P(5)$
You may use the blank spinner to help you.

[3 marks]



Answer _____

Q9. (2024)

- 4 (b) A different spinner has ten sections, each labelled A, B, C or D.

	A	B	C	D
Probability	0.1	0.5	0.2	0.3

Give **one** reason why there **must** be a mistake in the table.

[1 mark]