

Probability – GCSE Mathematics

1. No.5(b)

A school year has 78 students.

28 wear glasses.

 $\frac{1}{4}$ of the students who wear glasses are left-handed.30% of the students who do **not** wear glasses are left-handed.

(b) A left-handed student is chosen at random.

Work out the probability that the student wears glasses.

[1 mark]

Answer _____

2. No.4

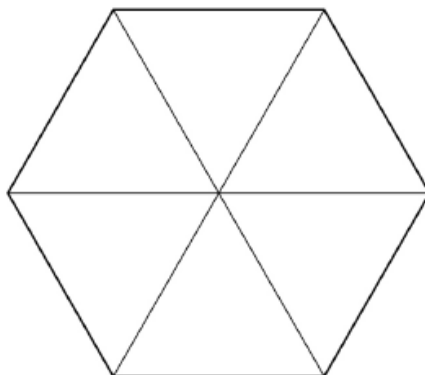
(a) A fair spinner has six equal sections, each with the number 5, 6, 7 or 8

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 _____

(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]**

3. No.7

Archie flips a biased coin 200 times.

Here is some information about the outcomes after each 50 flips.

Total number of flips	50	100	150	200
Number of heads	10	27	37	52

Work out the best estimate for the probability of flipping a head.

Give a reason for your answer.

[2 marks]

Answer _____

Reason _____

4. No.10

On a biased dice,

$$P(\text{lands on } 6) = 0.38$$

This dice is rolled 150 times.

How many times would you expect the dice not to land on 6 ?

[3 marks]

Answer _____

5. No.12

Cards are either gold or not gold.

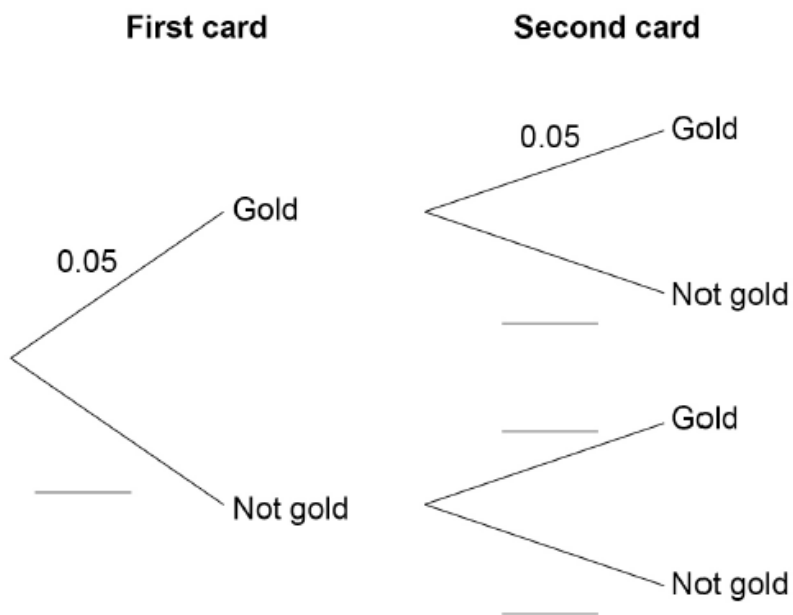
$$P(\text{gold}) = 0.05$$

Harim chooses a card at random and replaces it.

He then chooses a second card.

(a) Complete the tree diagram.

[2 marks]



(b) What is the probability that **at least one** of Harim's cards is gold?

[3 marks]

Answer _____

6. No.16

Jing rolls a fair six-sided dice 72 times.

	1	2	3	4	5	6
Frequency	16	11	10	8	14	13

Is the relative frequency of rolling a 5 greater than the theoretical probability?

Tick a box.

Yes

☐

No

☐

Give a reason for your answer.

[3 marks]
