

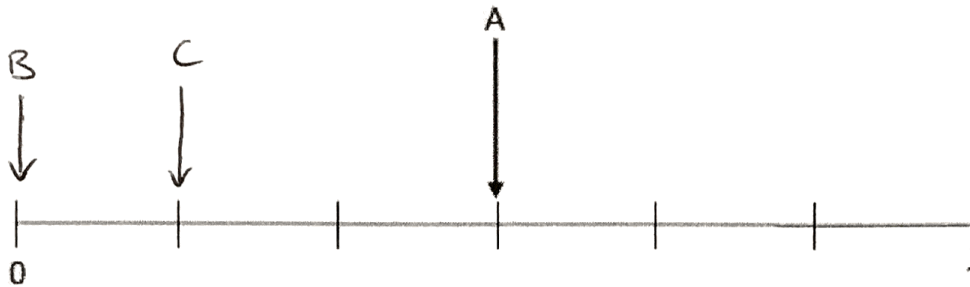
End of Unit Test
Probability - FOUNDATION

Name: Answers



1. Here are three events for an ordinary fair dice.
 A Roll an odd number
 B Roll a number greater than 6
 C Roll an even number less than 3

Draw and label arrows to show the probabilities of events B and C on the probability scale.



(Total 2 marks)

2. Four teams A, B, C and D play matches against each other. The teams play each other once. Complete the list of matches. One match has been done for you.

A plays B..... A plays C..... A plays D.....
 B plays C..... B plays D..... C plays D.....

(Total 2 marks)

3. There are 25 counters in a bag. 12 are red, 5 are green and the rest are white. A counter is chosen at random. Work out the probability that it is white.

$25 - (12 + 5) = 8$

Answer $\frac{8}{25}$

(Total 2 marks)

4. A spinner has four sections A, B, C and D. The table shows the probabilities of the spinner landing on A, B or C.

Outcome	A	B	C	D
Probability	0.2	0.3	0.15	

Work out the probability of landing on D.

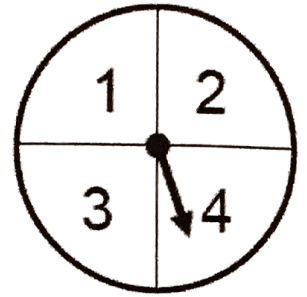
$1 - (0.2 + 0.3 + 0.15) = 1 - 0.65 = 0.35$

Answer 0.35

(Total 2 marks)

5. A game is played with a fair spinner. The player spins the spinner twice. The score is the **difference** between the two numbers.

(a) Complete the table to show the scores.



		First spin			
		1	2	3	4
Second spin	1	0	1	2	3
	2	1	0	1	2
	3	2	1	0	1
	4	3	2	1	0

(2)

(b) The player **loses** if the score is 0 or 1. The player **wins** if the score is 2 or 3.

Amy says,

“Two scores win and two scores lose, so the chance of winning is evens.”

Is Amy correct? Tick a box.

Yes No

Give a reason for your answer.

$P(\text{lose}) = \frac{10}{16}$ and $P(\text{win}) = \frac{6}{16}$

.....

.....

.....

(2)

(Total 4 marks)

6. Fay is testing an ordinary six-sided dice to see if it is biased. She throws the dice 120 times.
(a) Work out the number of times the dice is expected to land on 1

$\frac{1}{6}$ of 120 = 20

Answer 20

(1)

- (b) Here are the actual results.

Number on dice	1	2	3	4	5	6	Total
Frequency	5	19	17	20	21	38	120

Is the dice biased? Tick a box.

Yes No Could not tell

1 has occurred fewer times than expected, but 6 has occurred more times than expected.

(2)

(Total 3 marks)

7. (a) In a statistical experiment a fair, ordinary die is rolled. Tick a box to show the correct ending to the sentence below.

When this statistical experiment is repeated you will:

always get the same outcome

usually get the same outcome

usually get a different outcome

always get a different outcome

(1)

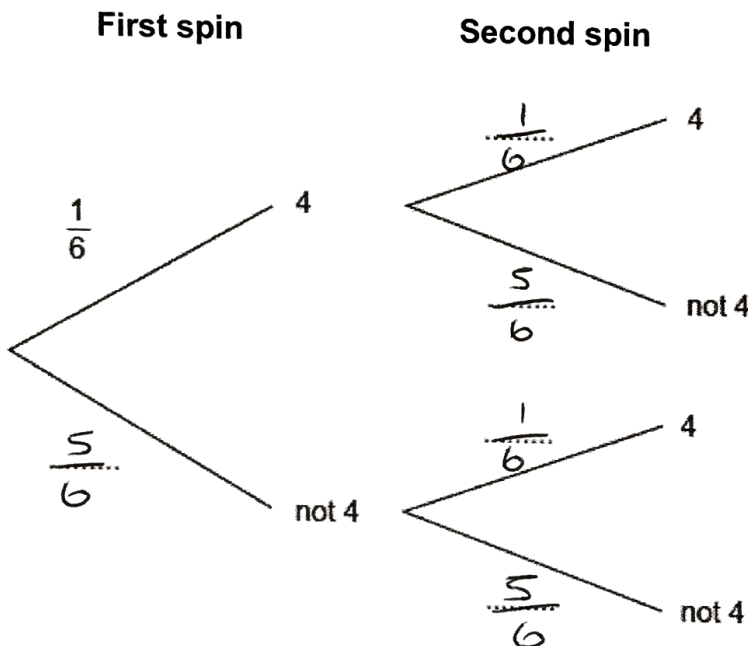
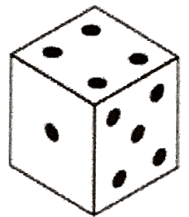
(b) Tick a box to show the correct ending to the sentence below. An estimate of probability based on a statistical experiment is more reliable with

- more trials
- fewer trials
- more time between trials
- less time between trials

(1)
(Total 2 marks)

8. An ordinary fair dice is rolled.

(a) Complete the tree diagram for the dice landing on 4



(b) Work out the probability of the dice landing on 4 both times. (1)

$P(4 \text{ and } 4) = \frac{1}{6} \times \frac{1}{6} = \frac{1}{36}$

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Answer $\frac{1}{36}$

(2)
(Total 3 marks)

(Total for test = 20 marks)