**End of Unit Test** Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Probability - FOUNDATION**

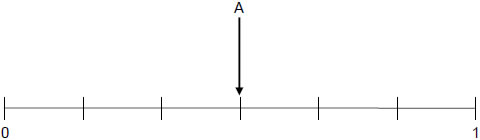
**1.** Here are three events for an ordinary fair dice.

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……………………………………………………………………………………………

…………………………………………………………………………………………………………

…………………………………………………………………………………………………………

**(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.

…………………………………………………………………………………………………………

…………………………………………………………………………………………………………

Answer ...................................................................................

**(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 |  |

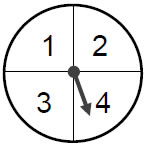
Work out the probability of landing on D.

…………………………………………………………………………………………………………

…………………………………………………………………………………………………………

Answer ...................................................................................

**(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** |  |  | 2 |  |
|  | **2** |  |  |  |  |
|  | **3** | 2 |  |  |  |
|  | **4** |  |  |  |  |

**(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.

…………………………………………………………………………………………………

…………………………………………………………………………………………………

…………………………………………………………………………………………………

…………………………………………………………………………………………………

**(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

…………………………………………………………………………………………………

…………………………………………………………………………………………………

Answer ...................................................................................

**(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 □

…………………………………………………………………………………………………

…………………………………………………………………………………………………

…………………………………………………………………………………………………

…………………………………………………………………………………………………

**(2)**

**(Total 3 marks)**

**7.** (a) In a statistical experiment a fair, an 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 □

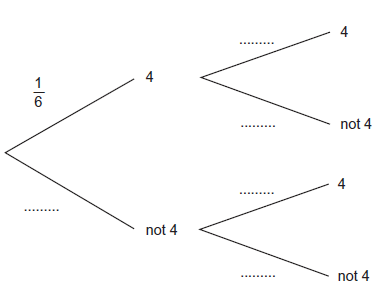
**(1)**

**(Total 2 marks)**

 **8.** An ordinary fair dice is rolled.

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

**First spin**                        **Second spin**

****

**(1)**

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

…………………………………………………………………………………………………

…………………………………………………………………………………………………

…………………………………………………………………………………………………

Answer ......................................................................

**(2)**

**(Total 3 marks)**

**(Total for test = 20 marks)**