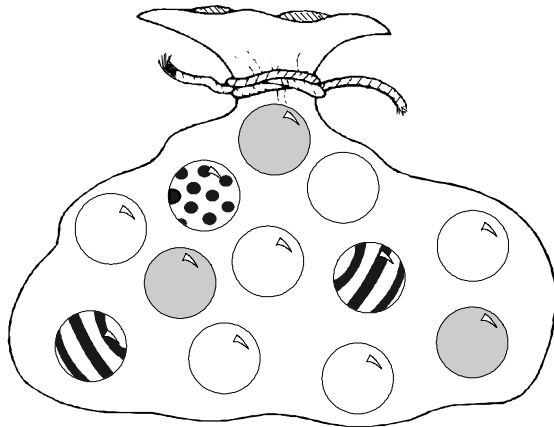






1.



Key	
	striped
	spotty
	white
	grey

These marbles are hidden in a bag. The bag is shaken.

Pete pulls out one marble without looking.

(a) Which kind of marble is Pete most likely to pull out?

1 mark

(b) Explain how you know.

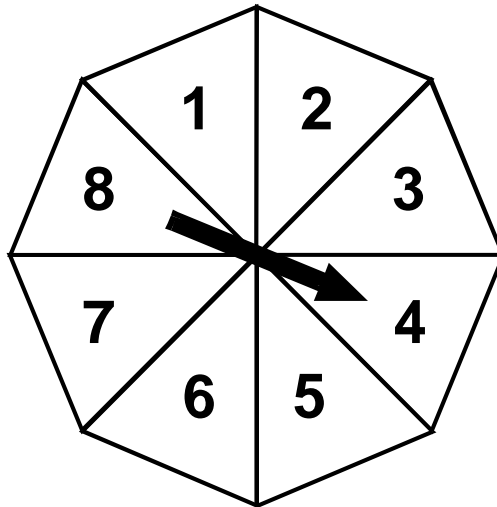
.....

.....

.....

1 mark

2. Mel uses an **8-sided** spinner.



Draw lines to show how **likely** the following are.



a number less
than 10

the number 11

the same number
three times in a row

an odd number

impossible

unlikely

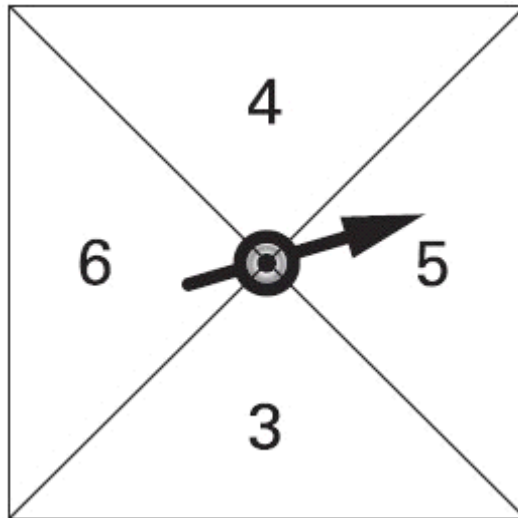
even chance

likely

certain

2 marks

3. Geeta has this spinner.



What is her chance of spinning the numbers in the boxes below?
Match each box to the correct word.

One has been done for you.



an odd number

certain

2

impossible

**a number
less than 10**

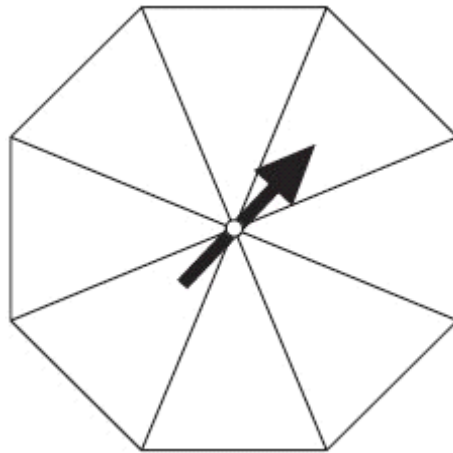
even chance

likely

1 mark

4. Here is a spinner which is a regular octagon.

Write 1, 2 or 3 in each section of the spinner so that **1 and 2 are equally likely** to come up and **3 is the least likely** to come up.



2 marks

5. When a coin is tossed the probability of heads is a half and the probability of tails is half.

The coin is **tossed twice**.

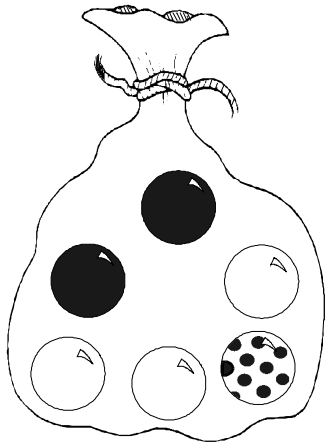
The **first** time the coin is tossed it lands **heads**.

Circle the value to show the probability that the coin lands **heads** the **second** time it is tossed?

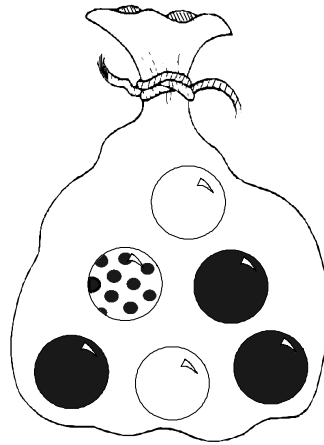
0 $\frac{1}{4}$ $\frac{1}{2}$ $\frac{3}{4}$ 1

1 mark

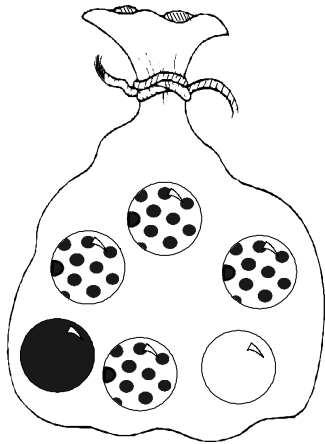
6. Each of these bags is shaken.



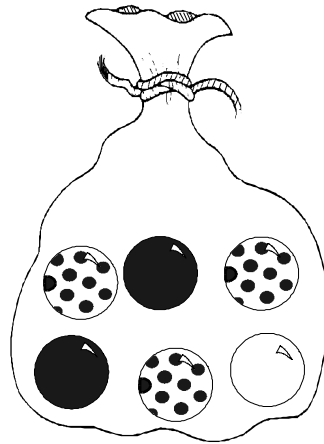
Bag A






Bag B



Bag C



Bag D

Key	
	white
	black
	spotty

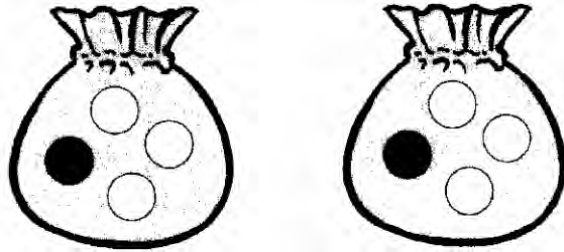
John takes a ball from each bag without looking.

From which bag is the probability of taking a **white ball** the **same** as the probability of taking a **black ball**?

1 mark

7. Here are two bags.

Each bag has **3 white balls** and **one black ball** in it.



A ball is taken from **one of the bags** without looking.

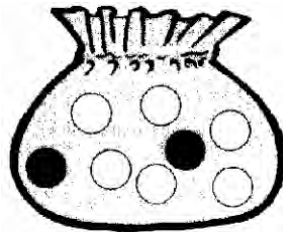
What is the probability that it is a **black ball**?

Give your answer as a fraction.



1 mark

All the balls from **both bags** are now mixed together in a new bag.



Put a **cross (X)** on this line to show the probability of taking a **black ball** from the new bag.



1 mark

8. Sapna makes up a game using seven cards.

Here are the cards.



Josh picks a card without looking.

If Josh picks an **odd** number then Sapna scores a point.

If Josh picks an **even** number then Josh scores a point.

Is this a fair game?

Circle Yes or No.

 Yes / No

Explain how you know.



.....

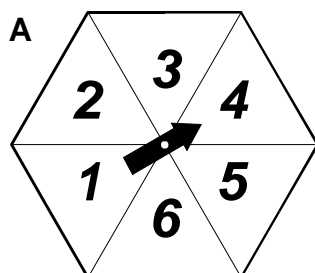
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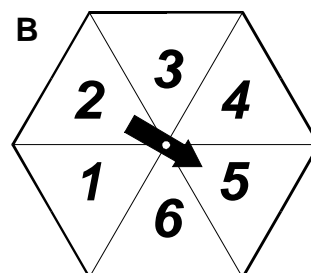
1 mark

9. Megan spins the pointers on these two spinners.

She adds the numbers together to make a **total**.



Total 9




Here is a table to show all the possible totals.

		Number on Spinner B					
		1	2	3	4	5	6
Number on Spinner A	1	2	3	4	5	6	7
	2	3	4	5	6	7	8
	3	4	5	6	7	8	9
	4	5	6	7	8	9	10
	5	6	7	8	9	10	11
	6	7	8	9	10	11	12


Use the table to answer these questions.

What is the **most likely** total?



1 mark

What is the **probability** of getting a total of 1?



1 mark

The total 3 and the total 11 are equally likely.

Explain how the table shows this.



.....

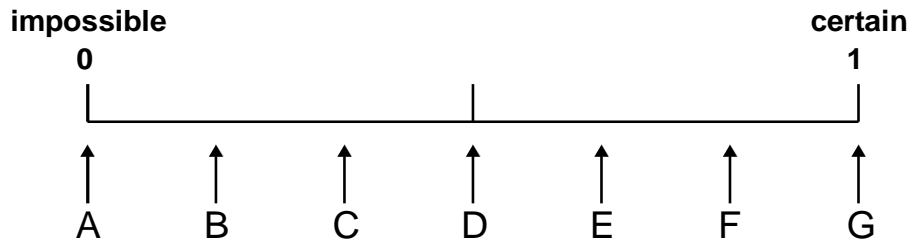
.....

.....

1 mark

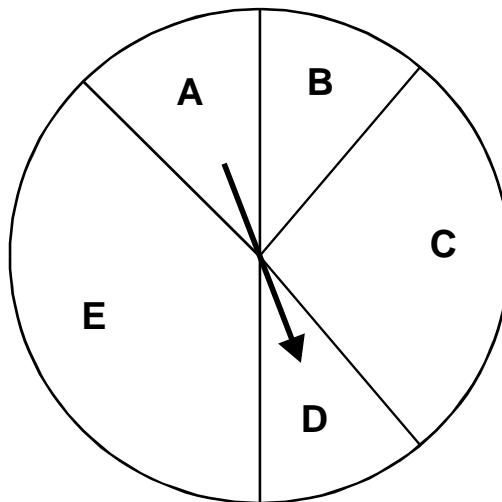
10. A fair dice has the numbers 2, 2, 2, 2, 5 and 5 on it.
The dice is rolled.

Circle the arrow which shows the **probability** of getting a 2.



1 mark

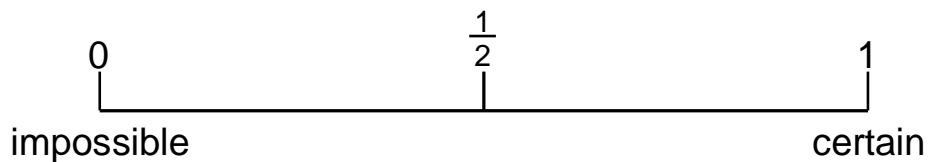
11. Here is a spinner



Anne spins the arrow.

What is the **probability** that the arrow stops in **sector E**?

Show this probability by putting a cross (X) on the probability line below.



1 mark

12. Dan has a bag of seven counters numbered **1 to 7**

Abeda has a bag of twenty counters numbered **1 to 20**

Each chooses a counter from their own bag without looking.

For each statement, put a tick (✓) if it is **true**.

Put a cross (✗) if it is **not true**.



Dan is **more likely** than Abeda to choose a **'5'**

They are both **equally likely** to choose
a **number less than 3**

Dan is **more likely** than Abeda to choose
an **odd number**.

Abeda is **less likely** than Dan to choose a **'10'**

2 marks

13. Samir spins a **fair** coin and records the results.



In the first four spins **'heads'** comes up each time.

1st spin	2nd spin	3rd spin	4th spin
Head	Head	Head	Head

Samir says,

'A head is more likely than a tail.'

Is he **correct**? Circle Yes or No.



Yes / No

Give a reason for your answer.



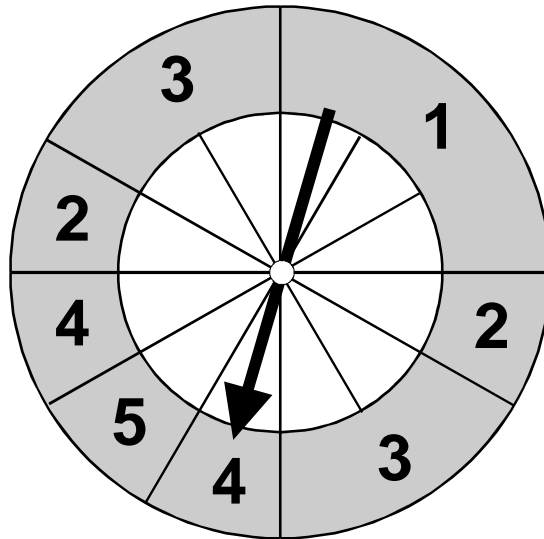
.....

.....

.....

1 mark

14. The outer ring of this spinner has **8 sections** labelled with the numbers **1 to 5**.
The inner ring has **12 equal sections** on it.



Laura spins the pointer.

Which is the pointer **most likely** to stop on?

s1 mark

Give a reason for your answer.



.....

.....

.....

1 mark

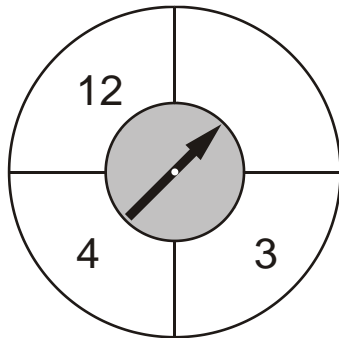
What is the probability of getting an **even number** on this spinner?

Give your answer as a fraction.

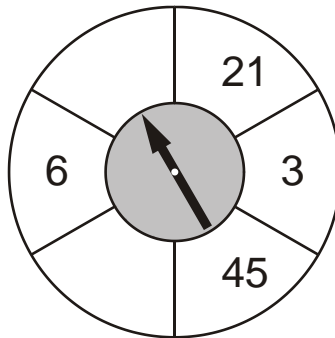
1 mark

15. Here are two spinners, P and Q.

Spinner P has 4 equal sections.
Spinner Q has 6 equal sections.



P



Q

Ben spins the pointer on each spinner.

For each statement below, put a tick (✓) if it is correct.
Put a cross (✗) if it is not correct.



Ben is **more likely** to score 4 on spinner P than on spinner Q.

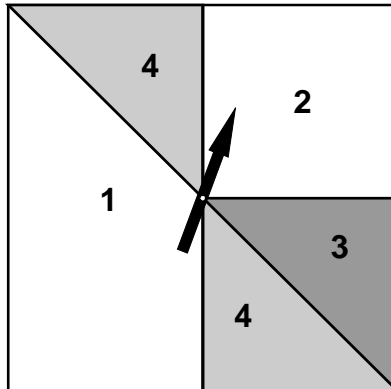
The score on spinner P is **certain** to be less than the score on spinner Q.

Ben is **equally likely** to score an even number on spinner P and spinner Q.

A score of less than 3 is **equally likely** on spinner P and spinner Q.

2 marks

16. Here is a square spinner.



Look at these statements.

For each one put a tick (✓) if it is **correct**.
Put a cross (✗) if it is **not correct**.



'4' is the **most likely** score.

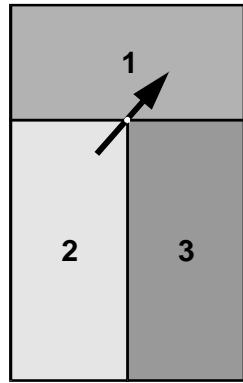
'2' and '4' are **equally likely** scores.

Odd and even scores are **equally likely**.

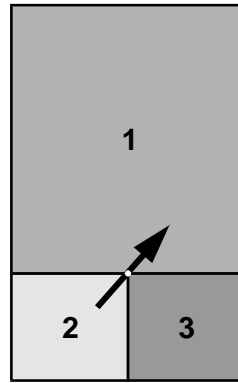
A score of '3' or more is **as likely as** a score of less than '3'.

2 marks

17. Katie made two spinners, A and B.



spinner A



spinner B

She says,

'Scoring a 1 on spinner A is just as likely as scoring a 1 on spinner B'.

Explain why Katie is correct.



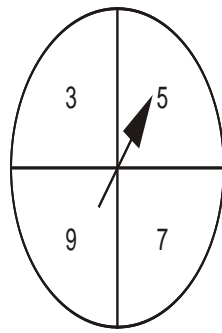
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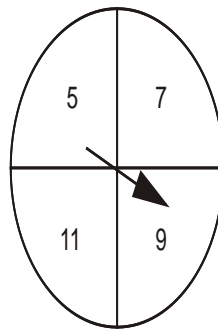
.....

1 mark

18. Here are two spinners, A and B.



A



B

Hassan spins the pointer on each spinner.

He adds his two scores together.

For each statement put a tick (✓) to show if it is **certain**, **possible** or **impossible**.

One has been done for you.



	certain	possible	impossible
The total will be more than 15	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The total will be an even number	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The total will be less than 6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The score on A will be less than the score on B.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2 marks