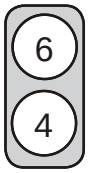
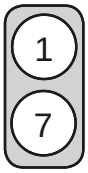
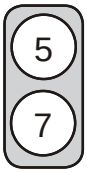
1. Each of these cards has two numbers on it.



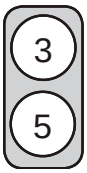


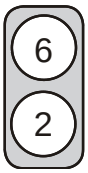


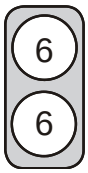
Stefan chooses one card without looking.

He adds the two numbers together.

What is the **most likely** total of the numbers on his card?



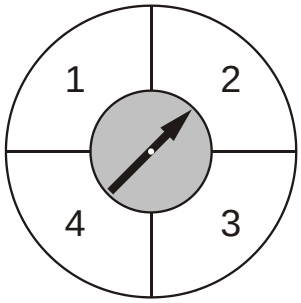




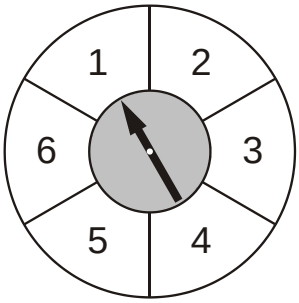
……..

2. 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.

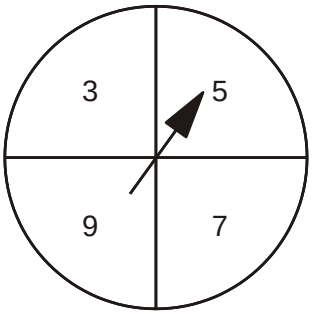
Ben is **more likely** to score 4
on spinner P than on spinner Q. ☐

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

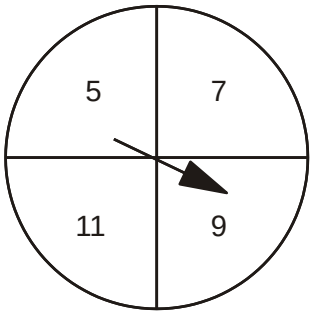
Ben is **equally likely** to score an even number
on spinner P and spinner Q. ☐

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

3. Here are two spinners, A and B.



A



Hassan spins the pointer on each spinner.

He adds his two scores together.

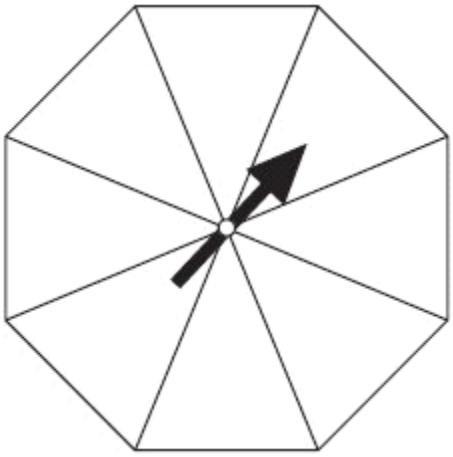
For each statement put a tick (✓) to show if it is **certain**, **possible** or **impossible**.

One has been done for you.

	certain	possible	impossible
The total will be more than 15	☐	☑	☐
The total will be an even number	☐	☐	☐
The total will be less than 6	☐	☐	☐
The score on A will be less than the score on B.	☐	☐	☐

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.



5. 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

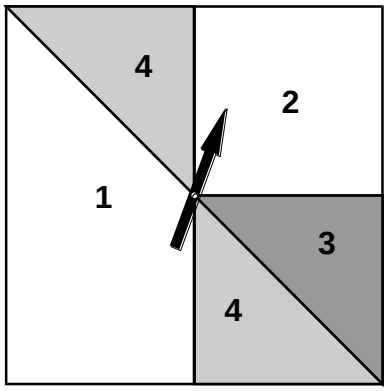
Explain how you know.

.....

.....

.....

6. 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**.

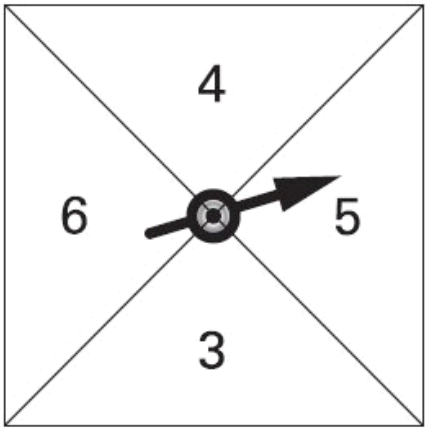
‘4‘ is the **most likely** score. ☐

‘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’. ☐

7. Geeta has this spinner.



What is her chance of spinning the numbers in the boxes below?

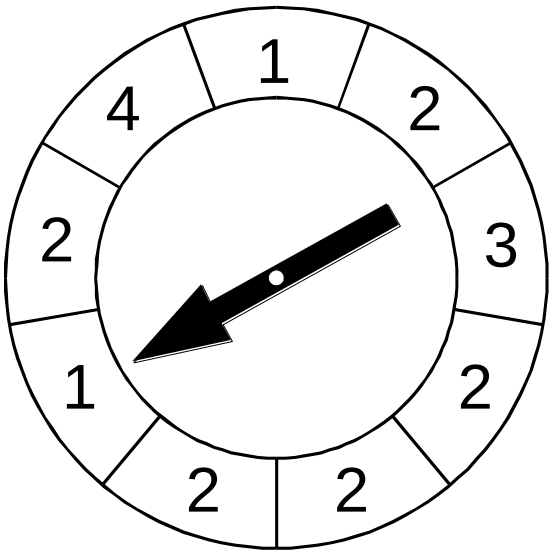
Match each box to the correct word.

One has been done for you.

an odd number	certain
2	impossible
a number less than 10	even chance
	likely

T

8. The spinner is divided into **nine** equal sections.



Which **two different numbers** on the spinner are equally likely to come up?

……..AND ……

Meera says,

'2 has a greater than even chance of coming up'.

Explain why she is correct.

.....

.....

.....

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

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

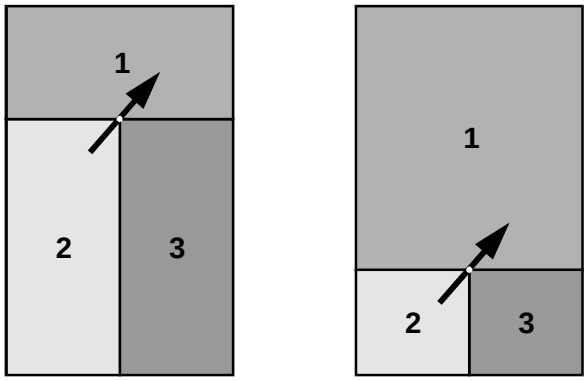
Each chooses a counter from their own bag without looking.

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'**	☐

10. 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.

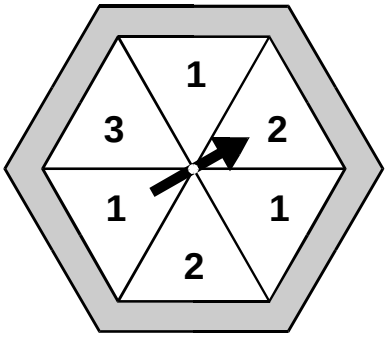
.....

.....

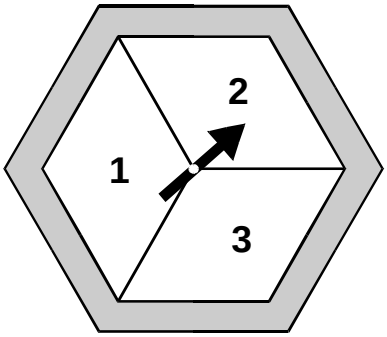
.....

11. Here are two spinners, A and B.

Each one is a regular hexagon.



A



B

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

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

Scoring '1' **is more likely** on A than on B. ☐

Scoring '2' **is more likely** on A than on B. ☐

Scoring '3' **is as equally likely** on A as on B. ☐

1 mark

Zara spins both spinners.

The score on A is added to the score on B.

She says,

> ***'The sum of the scores on both spinners is certain to be less than 7' .***

Is she correct?

Circle Yes or No. **Yes / No**

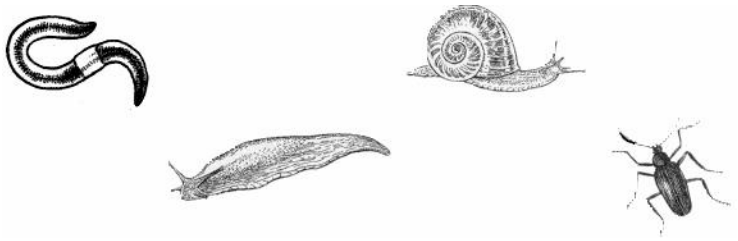
Explain how you know.

.....

.....

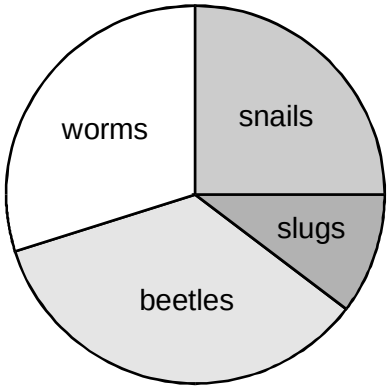
.....

12. Tony and Gemma looked for snails, worms, slugs and beetles in their gardens.



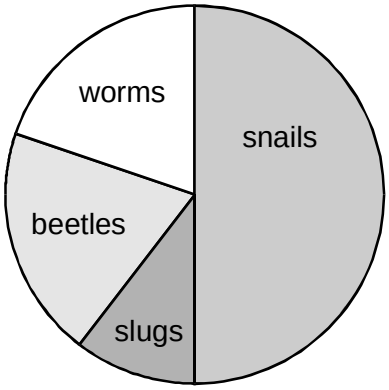
They each made a pie chart of what they found.

Tony's pie chart



Total 80

Gemma's pie chart



Total 36

Estimate the number of **worms** that **Tony** found.

1 mark

Who found more **snails**?

Circle Tony or Gemma.

Tony / Gemma

Explain how you know.

.....

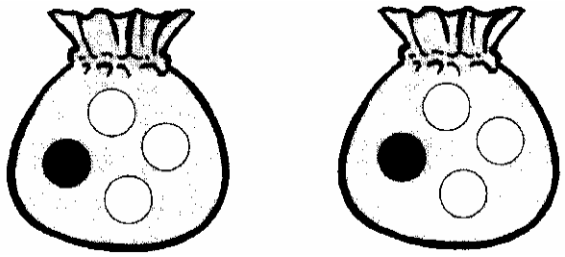
.....

.....

1 mark

13. Here are two bags.

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



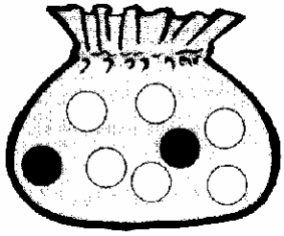
A ball is taken from **one of the bags** without looking.

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

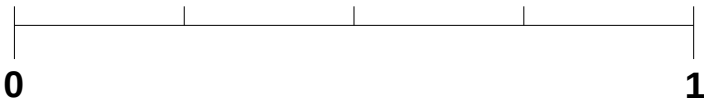
Give your answer as a fraction.

1 mark

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



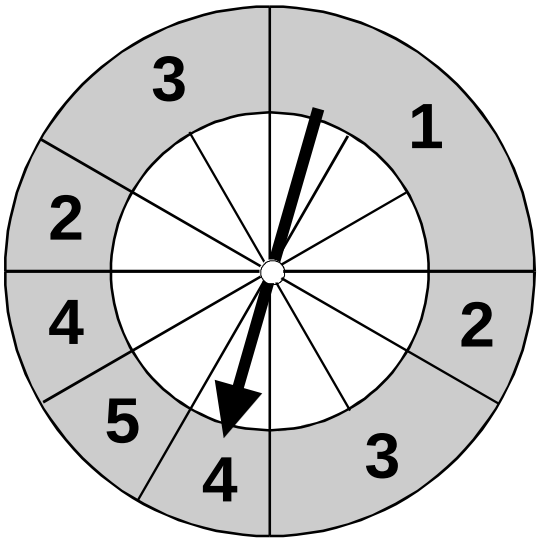
Put a **cross (✗)** on this line to show the probability of taking a **black ball** from the new bag.



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. 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.

.....

.....

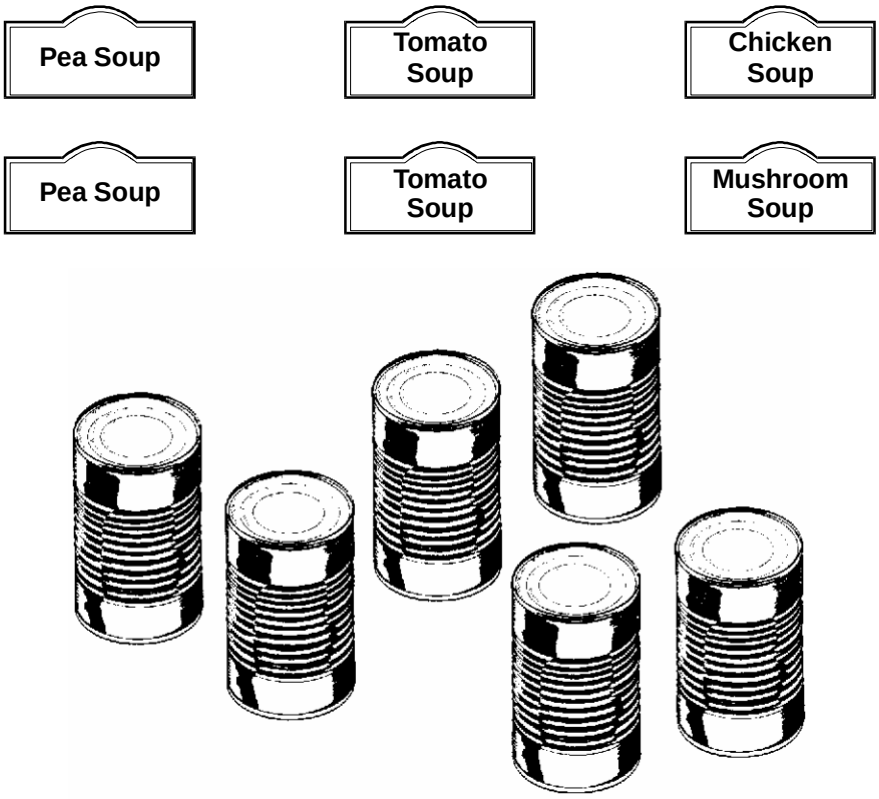
.....

1 mark

16. Harry has **six** tins of soup.

The labels have fallen off.

Here are the labels and tins.



Harry chooses a tin.

What is the **probability** that it is a tin of **Mushroom Soup**?

Give your answer as a fraction.

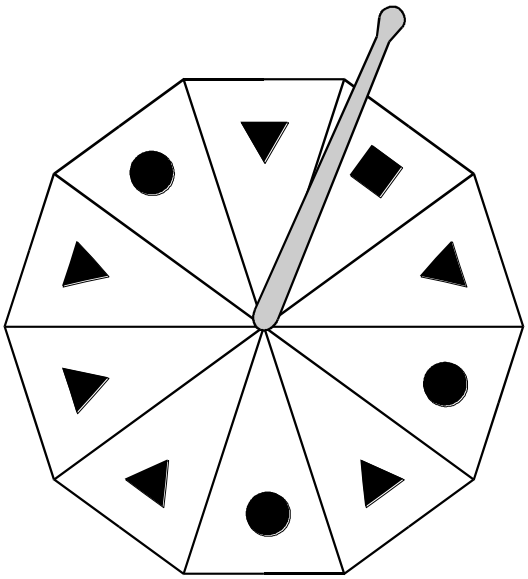
1 mark

What is the **probability** that the tin he chooses is **NOT** a tin of **Pea Soup**?

Give your answer as a fraction.

1 mark

17. Imagine you have this 10-sided spinner.



How likely are you to spin these shapes on your first spin?

Draw lines.

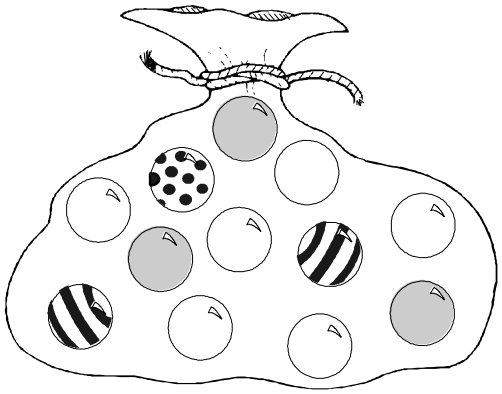
certain

most likely

least likely

impossible

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



Key	
	striped
	spotty
	white
	grey

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.

.....

.....

.....

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

The coin is **tossed twice**.

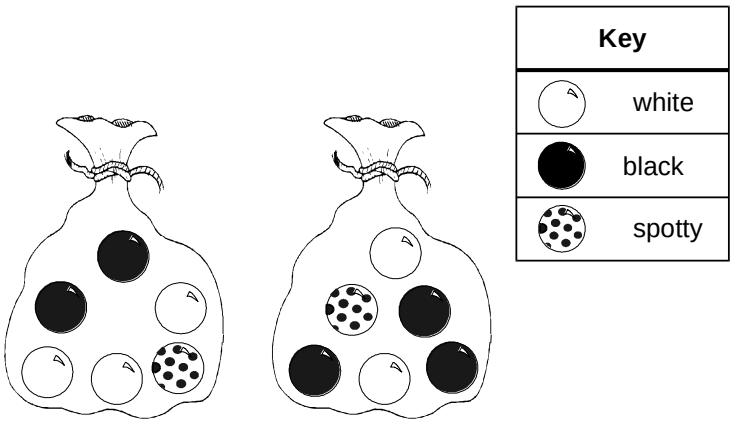
The **first** time the coin is tossed it lands **heads**.

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

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

1 mark

20. Each of these bags is shaken.



John takes a ball from each bag without looking.

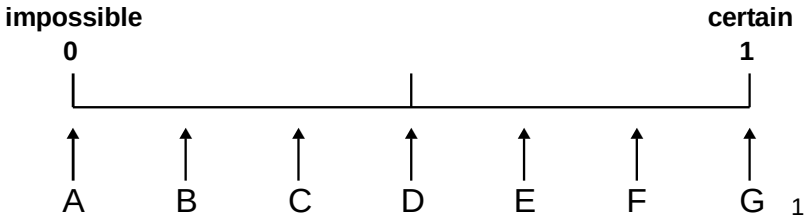
From which bag is the probability of taking a **white ball** the **same** as the probability of taking a **black ball**?

…….

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

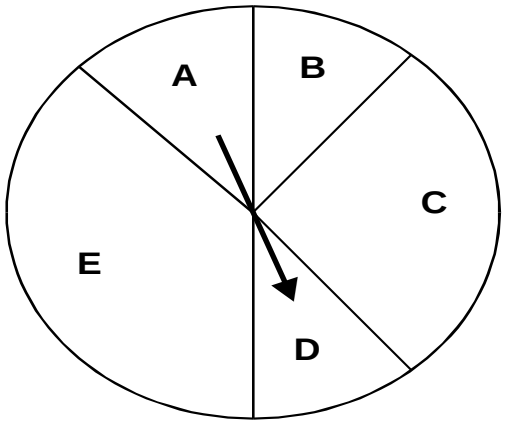
Circle the arrow which shows the

probability of getting a **2**.



1 mark

22. Here is a spinner

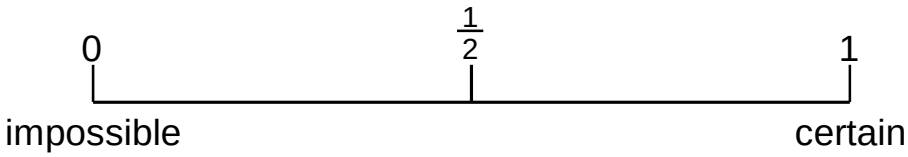


Anne spins the arrow.

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

Show this probability by putting a cross (X)

on the probability line below.



17. A special dice has the numbers 1 to 6 on it.

It is in the shape of a **cuboid** so that a 6 or a 1 is

less likely to come up than a 2, 3, 4 or 5.

The probability of rolling a **6** is **0.1**

The probability of rolling a **1** is **0.1**

The numbers **2**, **3**, **4** or **5** each have an **equal probability** of coming up.

Calculate the probability of rolling a **5** with this dice.

Show your **method**. You may get a mark.

cm

2 marks