Probability

From likelihood scales to calculating outcomes, probability questions test both reasoning and careful calculation.

23. Concorde could travel **1 mile every 3 seconds**.

How many miles per hour (mph) is that?



_____ mph

2 marks

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24. In a bag, there are only red, white and yellow counters.

I am going to take a counter out of the bag at random.

> The probability that it will be **red** is **more than** $\frac{1}{4}$
>
> It is **twice as likely** to be **white** as **red**.

Give an example of how many counters of each colour there could be.

Write numbers in the sentence below.

There could be _____ red, _____ white and _____ yellow counters.

2 marks

KS3 Maths SATs, Tier 4-6, Paper 2 (2008) - Q23

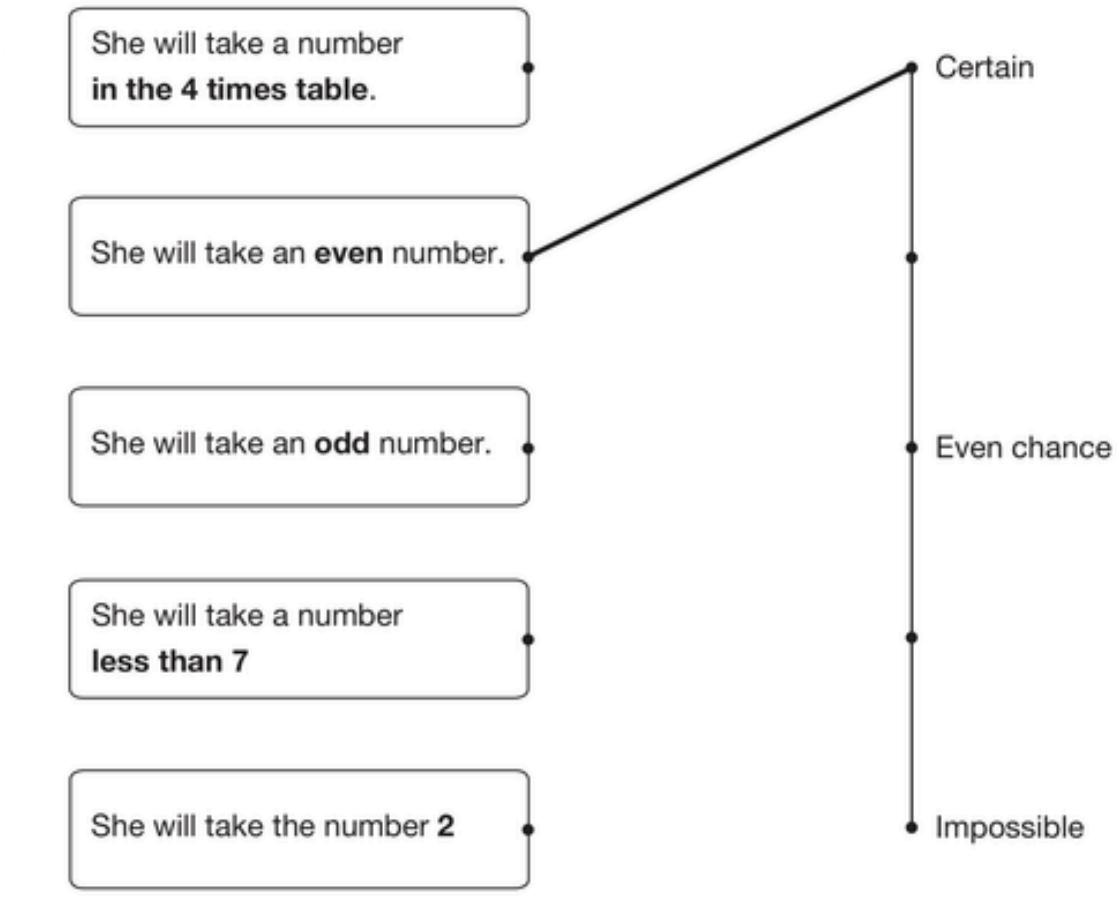
A pupil has these four number cards.

2	4	6	8

She is going to mix them up and take one card at random.

Match each statement to the correct position on the probability scale.

One is done for you.



KS3 Maths SATs, Tier 3-5, Paper 2 (2008) - Q10

20. Here is some information about all the pupils in class 9A.

	girls	boys
right-handed	13	14
left-handed	1	2

A teacher is going to choose a pupil from 9A at random.

(a) What is the probability that the pupil chosen will be a **girl**?

1 mark

(b) What is the probability that the pupil chosen will be **left-handed**?

1 mark

(c) The teacher chooses the pupil at random.
She tells the class the pupil is **left-handed**.

What is the probability that this left-handed pupil is a **boy**?

1 mark

KS3 Maths SATs, Tier 4-6, Paper 2 (2005) - Q20

22. Meg and Ravi buy sweet pea seeds and grow them in identical conditions.

Meg's results:

Number of packets	Number of seeds in each packet	Number of seeds that germinate from each packet
5	20	18, 17, 17, 18, 19

Ravi's results:

Number of packets	Number of seeds in each packet	**Total** number of seeds that germinate
10	20	170

(a) Using Meg's results and Ravi's results, calculate two different estimates of the **probability** that a sweet pea seed will germinate.

Using Meg's results: ..... 1 mark

Using Ravi's results: ..... 1 mark

(b) Whose results are likely to give the better estimate of the probability?

☐ Meg's ☐ Ravi's

Explain why.

Modern Tuition

21. I have two fair four-sided dice.

The dice are both numbered **3**, **4**, **5** and **6**

I am going to roll both dice and **multiply** the scores.

What is the probability that the product is a **multiple of 3**?



2 marks

KS3 Maths SATs, Tier 6-8, Paper 1 (2009) - Q21