



Name: _____ **Date:** _____ **Score:** _____ / 53

- 1** A fair six-sided dice is rolled once.

Write down the probability that the dice lands on a number less than 3.

(1 mark)

Answer _____

- 2** A spinner can land on red, blue, green or yellow.

The table shows the probabilities for three of the colours.

Colour	red	blue	green	yellow
Probability	0.2	0.35	0.1	

Work out the probability that the spinner lands on yellow.

(2 marks)

Answer _____

- 3** A bag contains 5 red counters, 3 blue counters and 2 yellow counters.

A counter is taken from the bag at random.

Write down the probability that the counter is blue.

(1 mark)

Answer _____

- 4** Here are some words that describe probability.

impossible unlikely even chance likely certain

Choose the best word to describe each event.

- A fair six-sided dice is rolled and lands on a number less than 7.
- A fair coin lands on heads.
- A bag contains only blue counters. A red counter is taken from the bag.

(3 marks)

Answer _____

5 Here is a probability scale, labelled from 0 to 1.

- Mark with a cross the probability that a fair coin lands on tails.
- Mark with a cross the probability that an ordinary fair dice lands on the number 8.



(2 marks)

Answer _____

6 Priya buys 12 tickets in a school raffle.

A total of 400 tickets are sold.

One ticket is picked at random to win the prize.

Work out the probability that Priya does **not** win the prize.

(2 marks)

Answer _____

7 A bag contains 10 counters: 4 red, 3 blue and 3 yellow. One counter is taken from the bag at random.

On the probability scale, mark with an arrow

- the probability that the counter is red. Label the arrow *R*.
- the probability that the counter is blue or yellow. Label the arrow *B*.



(2 marks)

Answer _____

8 A box contains 24 chocolates: 8 milk, 6 dark and 10 white.

Hana takes one chocolate from the box at random.

- Work out the probability that the chocolate is dark.
- Work out the probability that the chocolate is not white.

(3 marks)

Answer _____

9 A bag contains 4 green counters, 7 yellow counters and 9 white counters.

A counter is taken from the bag at random.

Find the probability that the counter is **not** green.

(2 marks)

Answer _____

10 The probability that Dan's bus is late on any school day is 0.15

- Work out the probability that Dan's bus is not late on a school day.
- There are 40 school days in a term. Work out how many days you would expect Dan's bus to be late.

(3 marks)

Answer _____

11 A bag contains only red, blue and green counters.

$\frac{1}{6}$ of the counters are green.

The rest of the counters are red and blue in the ratio red : blue = 3 : 2.

A counter is taken from the bag at random.

Work out the probability that the counter is blue.

(3 marks)

Answer _____

12 A fair six-sided dice is rolled.

Is it more likely to land on an even number or on a number greater than 4?

You must show how you decide.

(2 marks)

Answer _____

13 A fair eight-sided spinner has sections numbered 1 to 8.

The spinner is spun once.

a. Write down the word that best describes the probability that the spinner lands on 9.

b. Find the probability that the spinner lands on a multiple of 3.

(2 marks)

Answer _____

14 A fair six-sided dice is rolled.

a. Write down the probability that the dice lands on an even number.

b. Work out the probability that the dice lands on a factor of 12.

c. Work out the probability that the dice does not land on a factor of 12.

(3 marks)

Answer _____

15 Ben has these notes and coins in a tin:

two £10 notes, three £5 notes, four £2 coins and one £1 coin.

Ben takes one note or coin from the tin at random.

Work out the probability that its value is less than £5.

(3 marks)

Answer _____

16 Here are the numbers of goals a team scored in its last 10 matches.

2 0 1 3 2 2 1 0 2 4

- Write down the mode.
- One of the 10 matches is chosen at random. Work out the probability that the team scored exactly 2 goals in that match.

(3 marks)

Answer _____

17 A spinner can land on red, blue or green only.

$P(\text{red}) = 0.3$ and $P(\text{blue}) = 0.25$.

- Work out the probability that the spinner lands on red or blue.
- Work out the probability that the spinner lands on green.

(3 marks)

Answer _____

18 Box A contains 12 balls. 3 of the balls are red.

Box B contains 18 balls. 5 of the balls are red.

Leah takes one ball at random from each box.

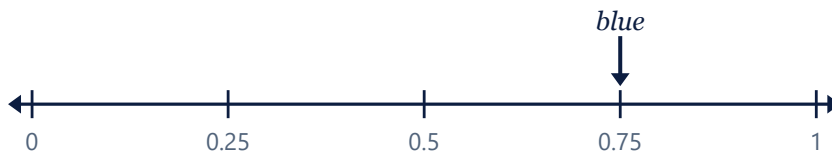
From which box is she more likely to take a red ball?

You must show your working.

(3 marks)

Answer _____

- 19** A spinner has 8 equal sections. Some sections are blue and the rest are white.
The arrow on the probability scale shows the probability that the spinner lands on blue.
- Write down the probability that the spinner lands on blue, as a fraction.
 - How many of the 8 sections are blue?



(2 marks)

Answer _____

- 20** Here are the probabilities of three events.

Event A: $\frac{2}{5}$ Event B: 0.35 Event C: 30%

- Write the events in order, starting with the least likely.
- Event B is a spinner landing on blue. The spinner is spun 200 times. Work out an estimate for the number of times it lands on blue.

(4 marks)

Answer _____

- 21** A bag contains only red, blue and green counters.

$$P(\text{green}) = 0.4$$

$$P(\text{red}) = P(\text{blue})$$

There are 20 green counters in the bag.

Work out the number of red counters in the bag.

(4 marks)

Answer _____

End of questions | Total 53 marks