

INTRODUCTION TO PROBABILITY

GRADE 1

Examination Practice Questions

You should have:

A ruler, protractor, compasses, a pen, pencil, eraser, calculator.
For some questions, you may need tracing paper.

Instructions

- Use **black** ink or ball-point pen.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- **Calculators may be used.**

Information

- The marks for each question are shown in brackets.
- If the number of marks for two similar questions isn't the same, this is likely due to them being modelled on different specifications. In this case, it is worth considering both mark schemes.
- Use the number of marks for each question as a guide as to how much time to spend on each question. As a rough guide, you can multiply the number of marks by 1.2 to see how many minutes you should spend on a question.
- Questions will generally get more challenging as the document progresses. Some of the latter questions may go beyond the core grade level for this topic.

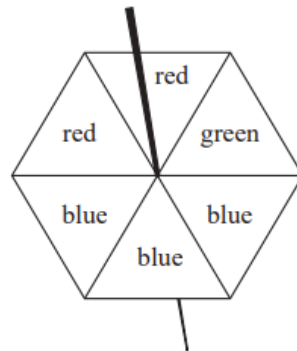
Advice

- Read each question carefully before you start to answer it.
- Don't forget to have fun.
- Check your answers at the end.

Q1.

AtoZrevision.com

The diagram shows a fair 6-sided spinner. Rami is going to spin the spinner once.



likely impossible certain evens unlikely

Use a word from the box which best describes the probability that the spinner will land on green.

UNLIKELY

(1 mark)

Q2.

AtoZrevision.com

likely impossible certain evens unlikely

Use a word from the box which best describes the probability that New Year's Day will fall on 1st January this year.

CERTAIN

(1 mark)

Q3.

AtoZrevision.com

There are 22 balls on the table at the beginning of a snooker game. 15 of the balls are red. Denise picks one ball, at random, from the table at the beginning of a game.

likely impossible certain evens unlikely

Use a word from the box which best describes the probability that she will pick a red ball

LIKELY

(1 mark)

Q4.

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Use a word from the box which best describes the probability of the following event:

likely impossible certain evens unlikely

When you throw an ordinary coin you get a tail.

EVENS

(1 mark)

Q5.

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Here are 6 counters.

Each counter has a letter on it.



Mo takes at random one of these counters.

Write down the likelihood that Mo takes a counter with the letter X on it.

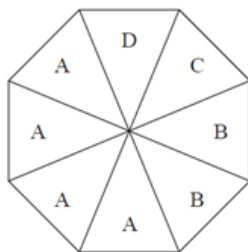
IMPOSSIBLE

(1 mark)

Q6.

AtoZrevision.com

Zak has a fair 8-sided spinner for a game.



Zac is going to spin the spinner once. The spinner will land on one of the letters.

Write down the likelihood that the spinner will land on A.

EVENS

(1 mark)

Q7.

AtoZrevision.com

Here are some letter cards.



A card is picked at random. Write down the likelihood that the card has a letter T on it.

EVEN

(1 mark)

Q8.

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likely impossible certain evens unlikely

Use a word from the box which best describes the probability of the following event:

When you throw an ordinary dice you get a number greater than 1

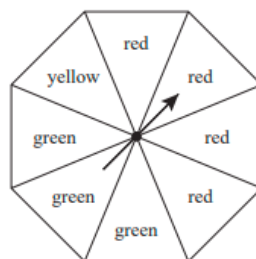
LIKELY

(1 mark)

Q9.

AtoZrevision.com

The diagram shows a fair 8-sided spinner.



Hollie is going to spin the spinner once.

Write down the word that best describes the likelihood that the spinner will land on red.

EVEN

(1 mark)

Caroline has a bag containing 10 counters.

In the bag there are

- 7 red counters
- 2 blue counters
- 1 green counter

Caroline is going to choose at random a counter from the bag.

impossible

unlikely

evens

likely

certain

Write down the word from the box that best describes the likelihood that Caroline will take:

(a) a red counter

A1

LIKELY

(b) a green counter

A1

IMPOSSIBLE

(2 marks)

There are 12 beads in a bag.

- 6 of the beads are green
- 4 of the beads are blue
- 2 of the beads are pink

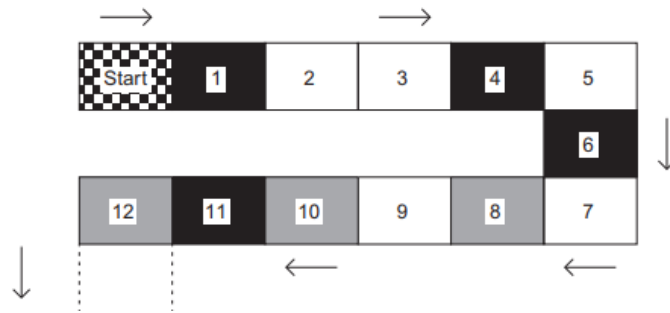
Peter takes at random a bead from the bag.

Write down the word that best describes the likelihood that the bead is green.

EVEN

(1 mark)

The diagram shows the first part of a board game.



Roll an ordinary, fair six-sided dice.

From the start, move the number of places shown by the dice.

Write down the word that describes the chance of landing on **grey** on your first move.

IMPOSSIBLE

(1 mark)

Write down the word that best describes the probability of a £1 coin standing on its edge after it has been spun through the air?

VERY UNLIKELY

(1 mark)

There are 3 counters in a bag.

One counter is red.

One counter is green.

One counter is blue.

Mike takes at random a counter from the bag. He puts the counter back in the bag.

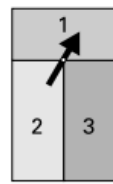
Then Ellie takes at random a counter from the bag.

Is Ellie more likely to take a blue counter from the bag than Mike?

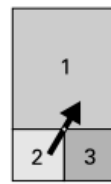
NO

(1 mark)

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'.

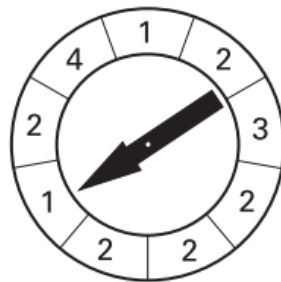
Explain whether Katie is Correct or Incorrect and why.

CORRECT. BOTH PROBABILITIES ARE $\frac{1}{2}$ AS THEY ARE 180°

A1

(2 marks)

This spinner is divided into nine equal sections.

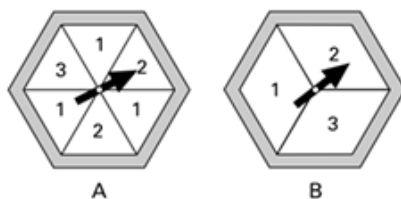


Which two different numbers on the spinner are equally likely to come up?

3 AND 4

(1 mark)

Here are two spinners, A and B. Each one is a regular hexagon.



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?

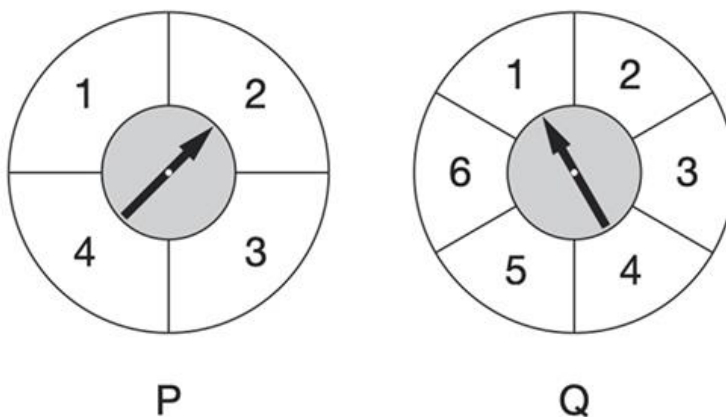
yes

(1 mark)

Here are two spinners, P and Q.

Spinner P has 4 equal sections.

Spinner Q has 6 equal sections.



Ben spins the pointer on each spinner.

Tick the correct statements.

B1



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

B1



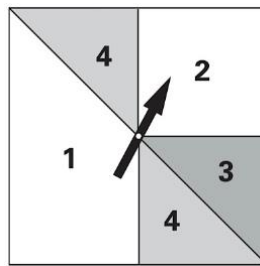
The score on spinner P is certain to be less than the score on spinner Q.

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)

Here is a square spinner.



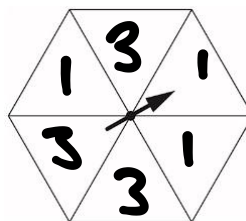
Tick the correct statements.

- ☒ B. ☒ B₁
- ☒ '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)

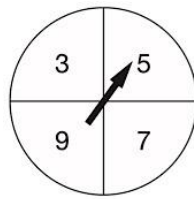
Here is a spinner.

Write a whole number in each section of the spinner so that it is **certain** you will get a number less than 4 and it is **impossible** you will get an even number.

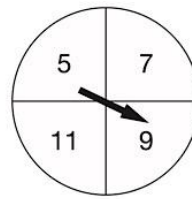


(1 mark)

Here are two spinners, A and B.



A



B

Hassan spins the pointer on each spinner.
He adds his two scores together.

Next to each statement, write CERTAIN, POSSIBLE or IMPOSSIBLE.

One has been done for you.

It is possible that the total will be more than 14

The total will be an even number

The total will be less than 5

The score on A will be less than the score on B

B₁ 2 CORRECT
B₁ 3 CORRECT
B₁ 4 CORRECT

P
.....
C
.....
I
.....
P
.....

(3 marks)

Laila spun a normal 2p coin four times and got TTTT.

H means heads and T means tails. If she spins the same coin twice again what will she get?

WE CANNOT TELL

(1 mark)