

Surname	
Other Names	
Candidate's Signature	

GCSE 9 - 1 Questions

Probability Scale 2

Calculator Not Allowed

INSTRUCTIONS TO CANDIDATES

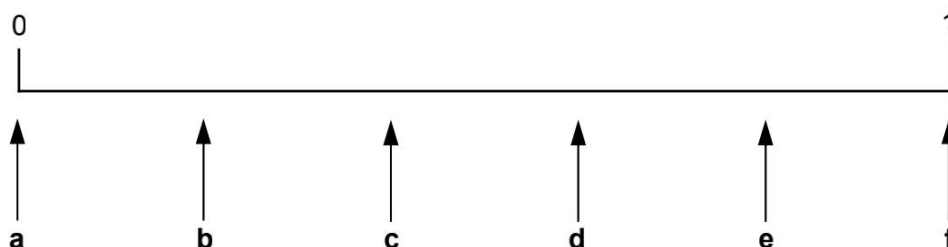
- Write your name in the space provided.
- Write your answers in the spaces provided in this question paper.
- Answer ALL questions.
- Any working should be clearly shown in the spaces provided since marks may be awarded for partially correct solutions.
- You should have a ruler, compass and protractor where required.

Total Marks :

- 1) Sanjiv has these five numbered discs.



He takes one without looking.



Complete these sentences.

Arrow _____ points to the probability that he chooses a **5**.

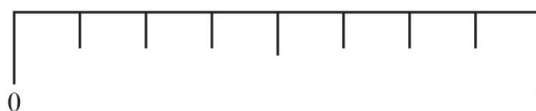
Arrow **d** points to the probability that Sanjiv chooses a _____.

Arrow _____ points to the probability that he chooses a number less than 2. **[3]**

- 2) Rui has a bag containing 5 black pens, 8 red pens and 3 blue pens only.
He takes a pen out of the bag at random.

Draw an arrow (\downarrow) on the probability scale to show the probability that Rui takes

- (a) a red pen,



[1]

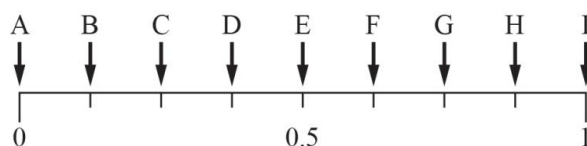
- (b) a red pen or a blue pen.



[1]

- 3) A bag contains 3 green balls, 4 red balls and 1 blue ball only.
Matt takes a ball from the bag at random.

Some probabilities are marked on the probability scale.



Write down the letter that shows the probability that

- (a) Matt takes a red ball,

..... [1]

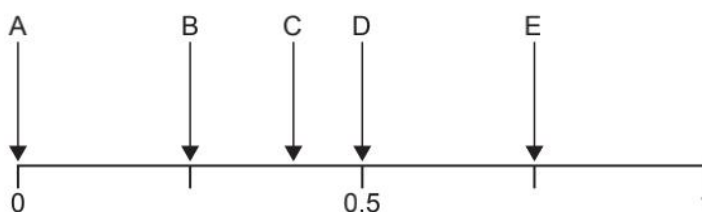
- (b) Matt does not take a blue ball.

..... [1]

- 4) Darren has these 20 crayons in a box:

- 8 blue
- 4 red
- 5 black
- 3 green.

- (a) He chooses a crayon at random from the box.



Which arrow shows the probability that this crayon is

- (i) blue,

(a)(i) Arrow [1]

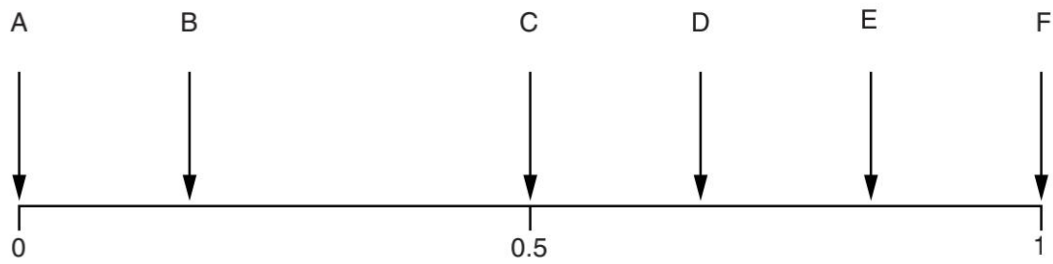
- (ii) yellow,

(ii) Arrow [1]

- (iii) not black.

(iii) Arrow [1]

5) The probability line shows the probabilities of 6 events.



Choose the arrow which matches each of these events when rolling a fair 6-sided dice.

(a) Rolling the number 5.

(a) _____ [1]

(b) Rolling an odd number.

(b) _____ [1]

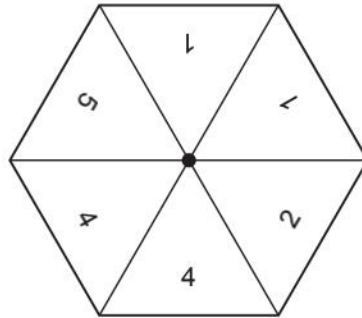
(c) Rolling the number 7.

(c) _____ [1]

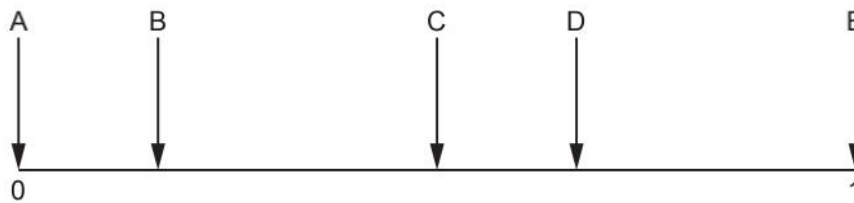
(d) Rolling a number less than 6.

(d) _____ [1]

- 6) A fair spinner has six sides.
They are labelled 1, 1, 2, 4, 4, 5.



The diagram shows a probability scale.



Which arrow shows the probability of

- (a) scoring a 2,

(a)[1]

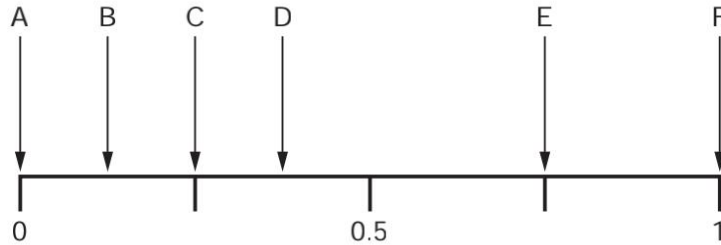
- (b) scoring a number less than 6,

(b)[1]

- (c) scoring a 1 or a 4?

(c)[1]

7)(a) Samantha has only these 8 coins in her purse.



Samantha chooses a coin at random from her purse.

Which arrow shows the probability that she chooses

(i) a 50p coin,

(a)(i) Arrow [1]

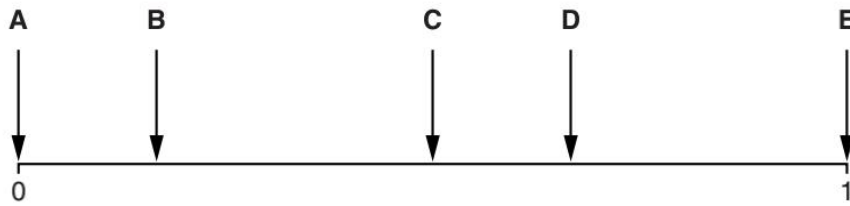
(ii) a 20p coin,

(ii) Arrow [1]

(iii) a coin with a value of **less than** £1?

(iii) Arrow [1]

8) This probability scale shows the probability of some of the outcomes when a fair six-sided dice is thrown.



Match a letter on the probability scale with each of the following outcomes.

(a) Throwing an even number.

(a) Letter _____ [1]

(b) Throwing a 5.

(b) Letter _____ [1]

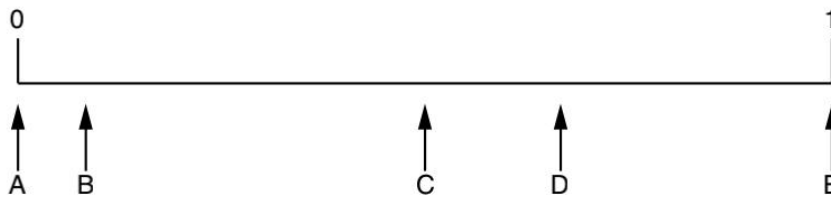
(c) Throwing a 7.

(c) Letter _____ [1]

(d) Throwing a number bigger than 2.

(d) Letter _____ [1]

- 9) This diagram shows a probability scale.



Kim's pencil case contains 8 black pens, 3 blue pens and 1 green pen.
Kim takes a pen at random.

Which arrow shows the probability that she takes

- (a) a black pen,

(a) _____ [1]

- (b) a green pen,

(b) _____ [1]

- (c) a red pen?

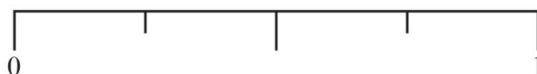
(c) _____ [1]

10)

A bag contains 6 blue counters and 2 red counters only.
A counter is taken from the bag at random.

Draw an arrow (\downarrow) on the probability scale to show the probability of taking

(a) a blue counter,



[1]

(b) a yellow counter.



[1]

11)

A fruit bowl contains 48 pieces of fruit.

3 Apples 6 Bananas 5 Plums 4 Oranges 30 Peaches

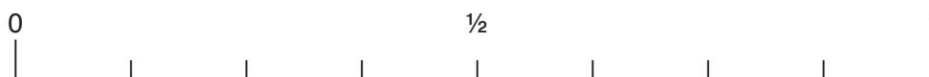
A piece of fruit is taken from the bowl at random.
Use arrows to mark the following on the probability line below.

(a) The probability that it is a banana.
Label this arrow **B**.

[1]

(b) The probability that it is a peach.
Label this arrow **P**.

[1]

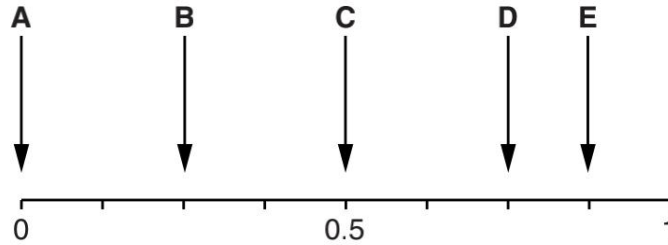


12)

Baby Gabriel has 8 bibs in his drawer:

- 2 blue
- 1 black and white
- 4 green
- 1 yellow.

His mum takes a bib from the drawer without looking.



Which arrow shows the probability that the bib she takes is

(i) green,

(a)(i) _____ [1]

(ii) blue,

(ii) _____ [1]

(iii) not yellow?

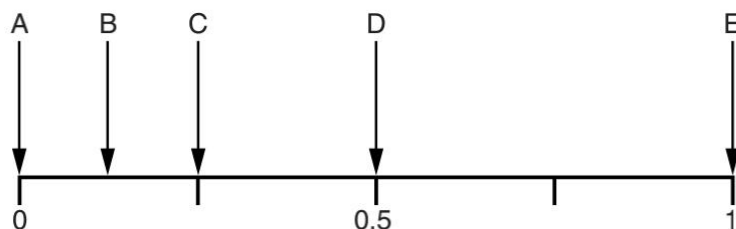
(iii) _____ [1]

13)

Alyssa has 8 packets of crisps.
The crisp flavours are:

- 4 salt and vinegar
- 2 plain
- 1 cheese and onion
- 1 chicken.

(a) She takes one packet at random.



State which arrow shows the probability that Alyssa takes a packet of

(i) salt and vinegar crisps,

(a)(i) Arrow _____ [1]

(ii) beef crisps,

(ii) Arrow _____ [1]

(iii) chicken crisps.

(iii) Arrow _____ [1]

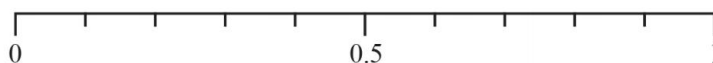
15) A bag contains 50 counters.

10 of the counters are red.

One of the counters is taken from the bag at random.

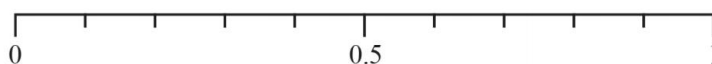
Draw an arrow on the scale below to show the probability that this counter is red.

[1]



Now draw an arrow on the scale below to show the probability that the counter was not red

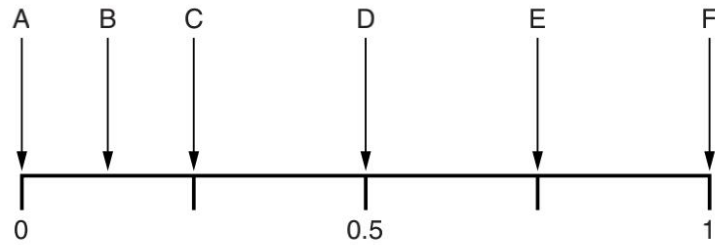
[1]



14) A sandwich shop has these 40 sandwiches for sale one morning.

- 10 tuna
- 20 ham
- 7 chicken
- 3 cheese

(a) A sandwich is chosen at random from these sandwiches.



Which arrow shows the probability that the sandwich is

(i) tuna,

(a)(i) Arrow..... [1]

(ii) beef,

(ii) Arrow..... [1]

(iii) ham?

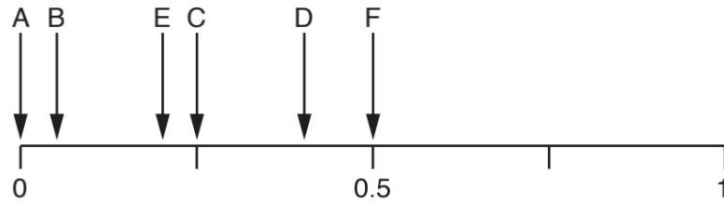
(iii) Arrow..... [1]

15)

Sarah has 80 sweets in a bowl.

- 16 are red
- 40 are green
- 20 are blue
- 4 are orange

(a) Sarah chooses a sweet at random from the bowl.



Which arrow shows the probability that the sweet is

(i) green,

(a)(i) Arrow [1]

(ii) red,

(ii) Arrow [1]

(iii) orange.

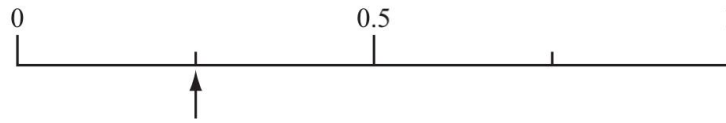
(iii) Arrow [1]

16)

A bag contains 20 counters.

One counter is taken from the bag at random.

The arrow on the probability scale shows the probability that this counter is blue.



(a) Work out the number of blue counters in the bag.

Answer(a)..... [1]

(b) Find the probability that the counter is **not** blue.

Answer(b)..... [1]

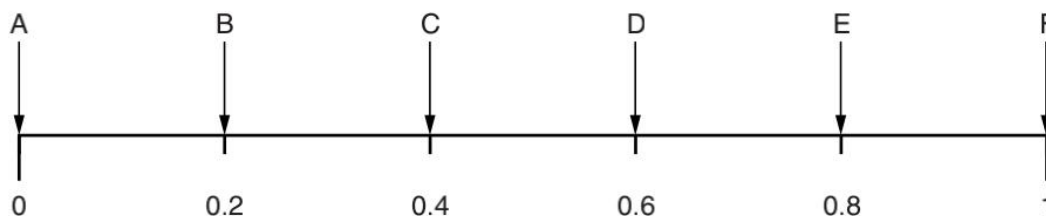
17)

Yasmin has 10 hair-slides in a box.

- 5 are green
- 2 are pink
- 2 are blue
- 1 is red

She chooses a hair-slide at random from her box.

Here is a probability line with some labelled arrows.



(a) (i) Choose an arrow from the line to complete these statements.

The probability that she takes a pink hair-slide is shown by arrow _____.

The probability that she takes a red or a green hair-slide is shown by arrow _____. [2]

(ii) Draw an arrow on the line above to show the probability that she takes a green hair-slide. Label your arrow G. [1]

(b) Yasmin buys 10 more hair-slides, 3 are green and 7 are blue. She places these in the box with the 10 hair-slides she already has. She chooses a hair-slide at random from her box.

Choose an arrow from the line above to complete this statement.

The probability that she takes a green hair-slide is shown by arrow _____. [2]