Sample 2 – Level 2

Example C

	Max	Mark	Comments
1A	4	3	Correct plan except for right hand side
1B	5	0	No tents drawn
1C	3	0	Incorrect tent identified and no workings shown
1D	3	3	Correct total cost for the group
1E	3	3	Correct deposit and balance
1F	4	4	Correct distance in km
1G	3	3	Correct number of minutes
2A	4	4	Three correct means
2B	1	1	Correct explanation
2C	4	0	No criteria met for a mark
2D	2	0	Incorrect comment
2E	3	3	All ranges correct
2F	1	1	Correct reverse check
2G	1	0	Incorrect comment
2H	4	0	No trend lines drawn and incorrect values
2I	1	0	No explanation given
2J	4	4	Correct tree diagram and probability values
totals	50	29	

4800-121 Level 2 Certificate in Essential Skills Application of Number

Sample paper 2

Length of assessment – 1 hour 30 minutes
Total marks available – 50 marks

Candidate Name (First, Middle, Last)

Candidate enrolment number   DOB (DDMMYYYY)

Candidate signature

Assessment date (DDMMYYYY)   Centre number

Length of assessment:

1 hour 30 minutes

You should have the following for this assessment
- a pen with black or blue ink
- a pencil and eraser for graph/diagram work
- a 30cm ruler.
- You may use a calculator.
- You may use a protractor.
- You may use a dictionary.

General instructions
- There are **2** tasks to complete.
- Each task is worth 25 marks.
- You should spend an equal amount of time on each task.
- Read through each task carefully.
- The maximum marks available are shown for each question.
- Show your working out, you may get marks for it.
- Check your calculations.
- Write all working out and answers in this booklet.

*I declare that I had no prior knowledge of the questions in this assessment and that I will not divulge to any person any information about the questions.

Task 1   Camping

There are **25** marks available for this task.
You should check all your work as you go along.
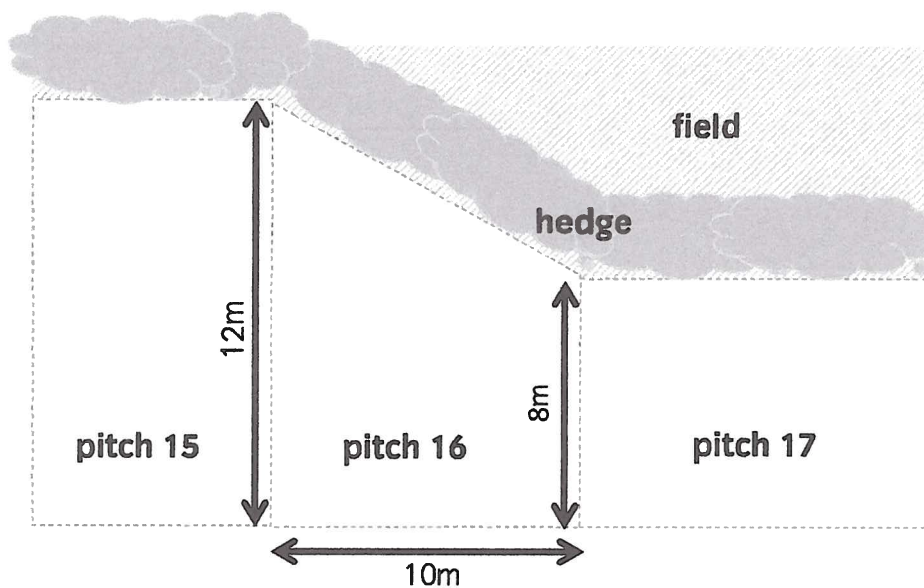
Introduction
This task is about planning a camping trip with a group of friends.

You have booked a pitch (space) at a campsite.

1A
You have three tents and need to plan where they will go on your pitch (pitch 16).

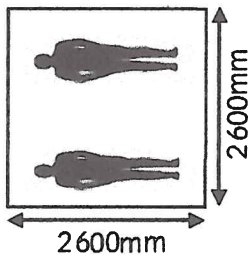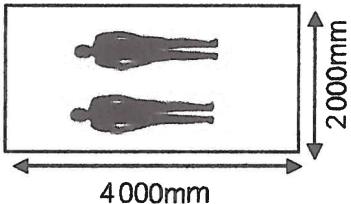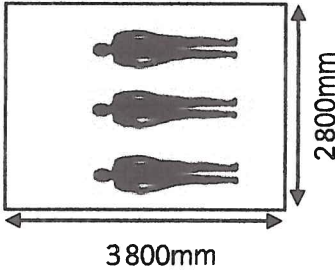Here is a rough sketch of part of the campsite.

Choose a suitable scale and draw a **scale plan** of pitch 16. Show your scale.
Use the graph paper opposite.

(4 marks)

1B
These are the dimensions of the tents you and your friends will take. (Diagrams not to scale)

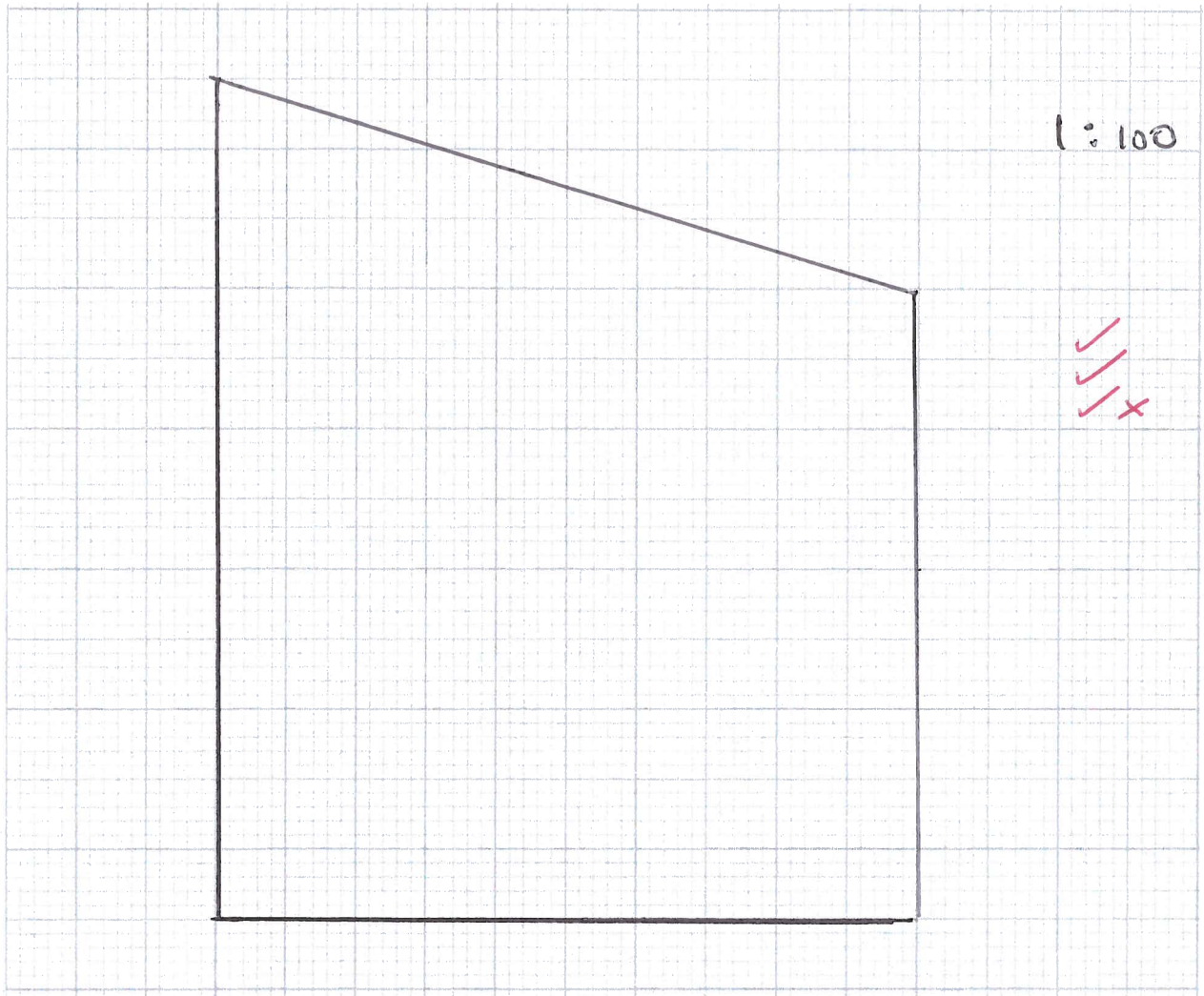| Tent A - You and Sam	Tent B - Niamh and Aisling	Tent C - Liam, Declan and Michael
2600mm × 2600mm	4000mm × 2000mm	3800mm × 2800mm

Draw the three tents to scale on your plan.

The tents must be
- at least 1 metre away from the edges of the pitch
- at least 2 metres away from each other.

Label your plan clearly. Show which friends will sleep in each tent.   **(5 marks)**

1 : 100

1A
——
3

1B.
——
0

1C

Compare the sizes of the three tents and work out which one has the most space **per person**.
You must include calculations to support your answer.

The tent with the most space per person is	A	B	C	
(Tick one)			✓	

Show your working   ✗   0

Space per person_____m²

(3 marks)

1D
This formula gives the cost to stay at the campsite.

> **C = N(7T + 2P)**
>
> where **C** is the total cost for the group in pounds
> **N** is the number of nights
> **T** is the number of tents and
> **P** is the number of people in the group

You and your friends will stay for **4 nights.**

Use the formula to work out the total cost for the group.

Show your working

$$C = 4(7 \times 3 + 2 \times 7)$$
$$= 4(21 + 14)$$

Total cost for the group £ _____140_____

3

(3 marks)

1E
You must pay a deposit of 35% of the total cost when you book and pay the remainder on arrival.

How much is the deposit?

How much must you pay on arrival?

Show your working

$$0.35 \times 140 = 49$$

$$140 - 49$$
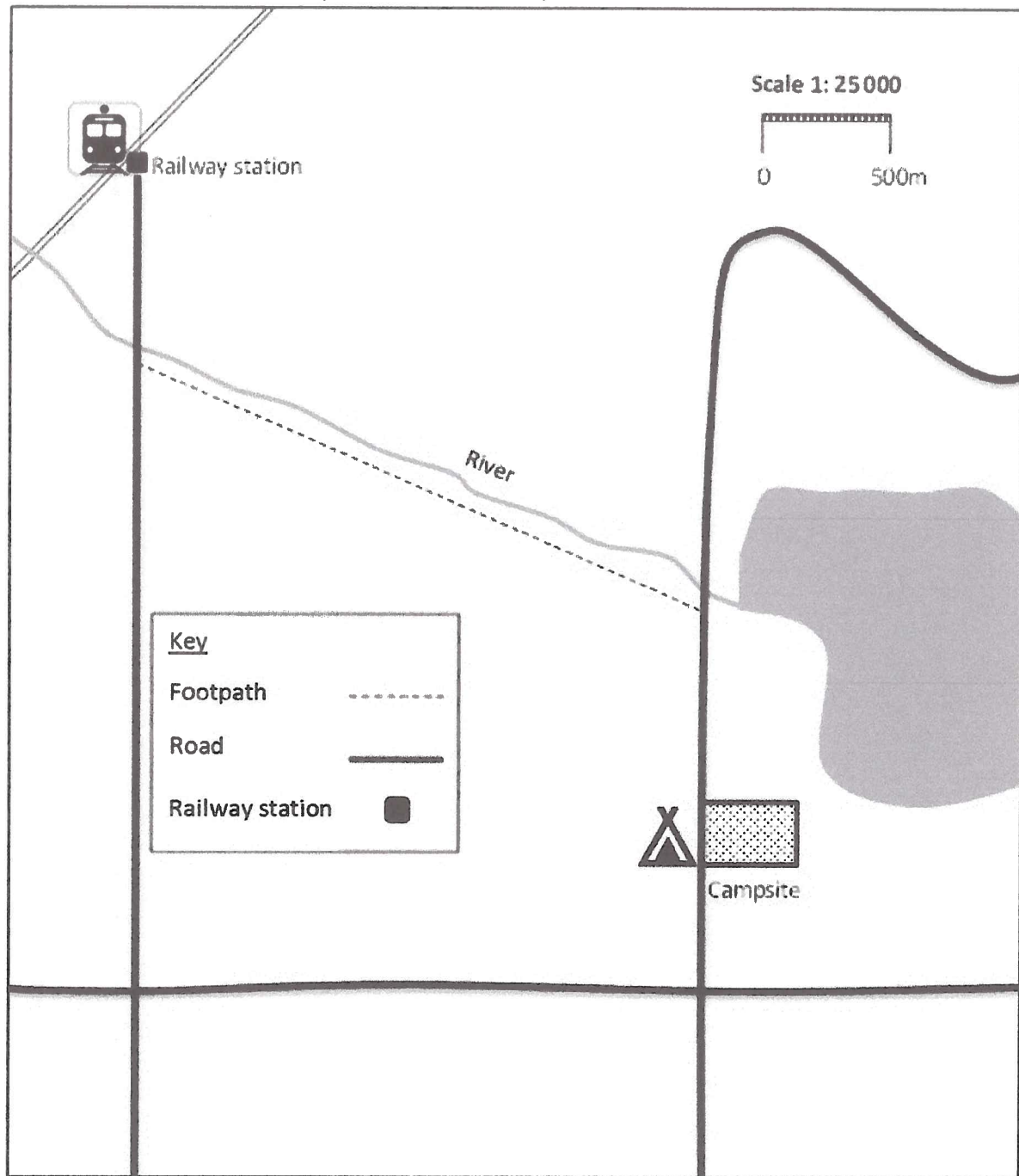
Deposit to pay £____49____

Amount to pay on arrival £____91____

3

(3 marks)

1F
You will walk from the railway station to the campsite.

Scale 1 : 25 000

0   500m

Railway station

River

Key

Footpath   - - - - - - - -

Road   ————

Railway station   ▪

Campsite

Measure the distance of the shortest route using roads and footpaths only.
Give your answer in **kilometres**.

Space for working

Distance of shortest route _____4_____ kilometres

(4 marks)

1G

It takes you 20 minutes to walk each mile.

How many minutes will it take you to walk from the railway station to the camp site by the shortest route?

$$1 \text{ kilometre} = \frac{5}{8} \text{ of a mile}$$

Space for working

$$4 \times \frac{5}{8} = \frac{20}{8} = 2.5 \times 20$$

Number of minutes _____50_____ ✓ 3

(3 marks)

Additional space for working and answers

Task 2   Hand wash

There are **25** marks for this task.
You should check all your work as you go along.

Introduction
This task is about marketing research for a new hand wash product.

A cosmetics company carries out a survey.
Volunteers try the hand wash and give it a score on a scale of 1 to 10 for the following three categories

- design of bottle
- fragrance
- hands feel clean.

Volunteer	Score for each survey question 1 = strongly disagree 10 = strongly agree		
	I like the design of the bottle	I like the fragrance (smell)	I like how clean my hands feel
A	4	6	7
B	3	7	9
C	6	6	8
D	3	8	6
E	6	8	9
F	3	6	7
G	4	10	6
H	3	2	6
I	4	9	9
J	6	6	10
K	6	10	9
L	6	6	10

2A

Work out a suitable average for the scores for the new hand wash.

Tick the average you will use | Mean [ ] | Median [ ] | Mode [✓]

(Tick one box)

Show your working

Design of bottle_____6 ✓

Fragrance_____6 ✓ 4

Hands feel clean_____9

(4 marks)

2B

Explain why the average you used is the most suitable.

Explanation

Its the rating chosen by the most people. ✓ 1
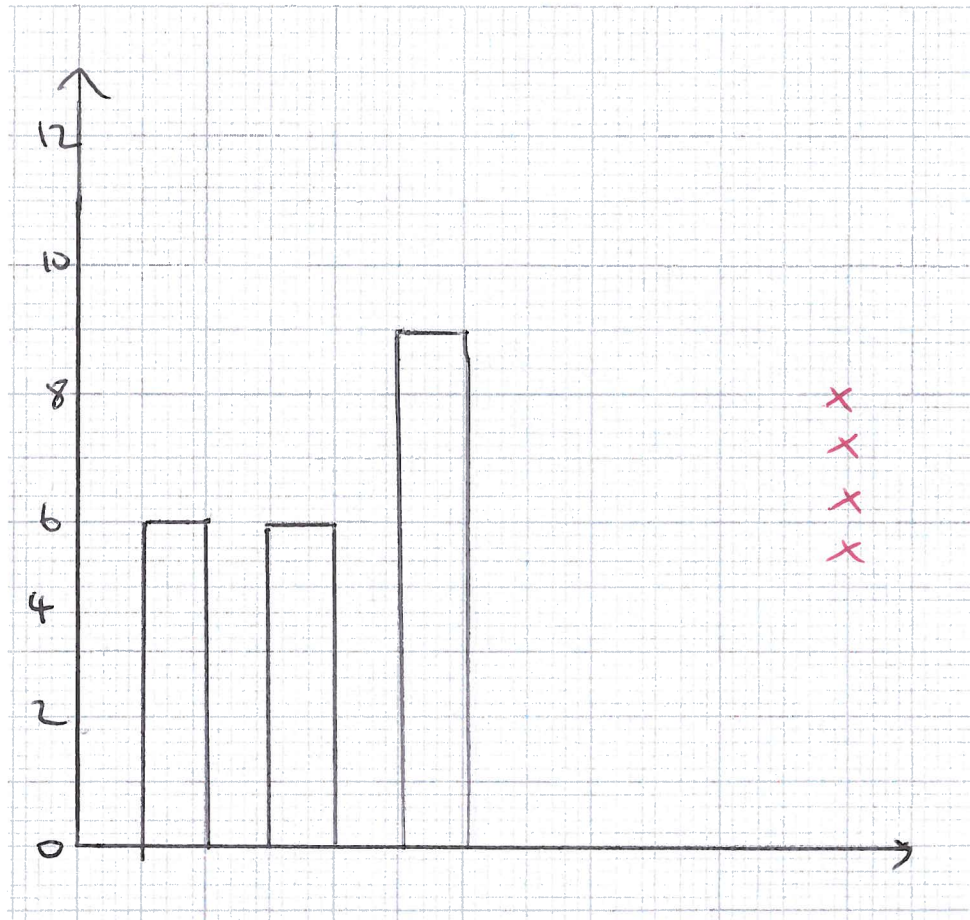
(1 mark)

2C

Draw a suitable chart to compare the **average** scores for the new hand wash from **2A** for
- design of bottle
- fragrance
- hands feel clean.

(4 marks)

2D

Explain what your chart shows about what the volunteers thought of the hand wash.
Make two comments.

good ratings

(2 marks)

2E

Find the range in scores for the new hand wash for
- design of bottle
- fragrance
- hands feel clean.

Show your working

6−3

10−2

10−6

Design of bottle _____ 3 ✓

Fragrance _____ 8 ✓

Hands feel clean _____ 4 ✓

3

(3 marks)

2F

Check one of your calculations in **2E**.
Use a **different** method to the one you used originally.

Write your check here

4+6=10 ✓ 1

(1 mark)

2G

Compare your ranges.
What do they show about the volunteers' opinions?

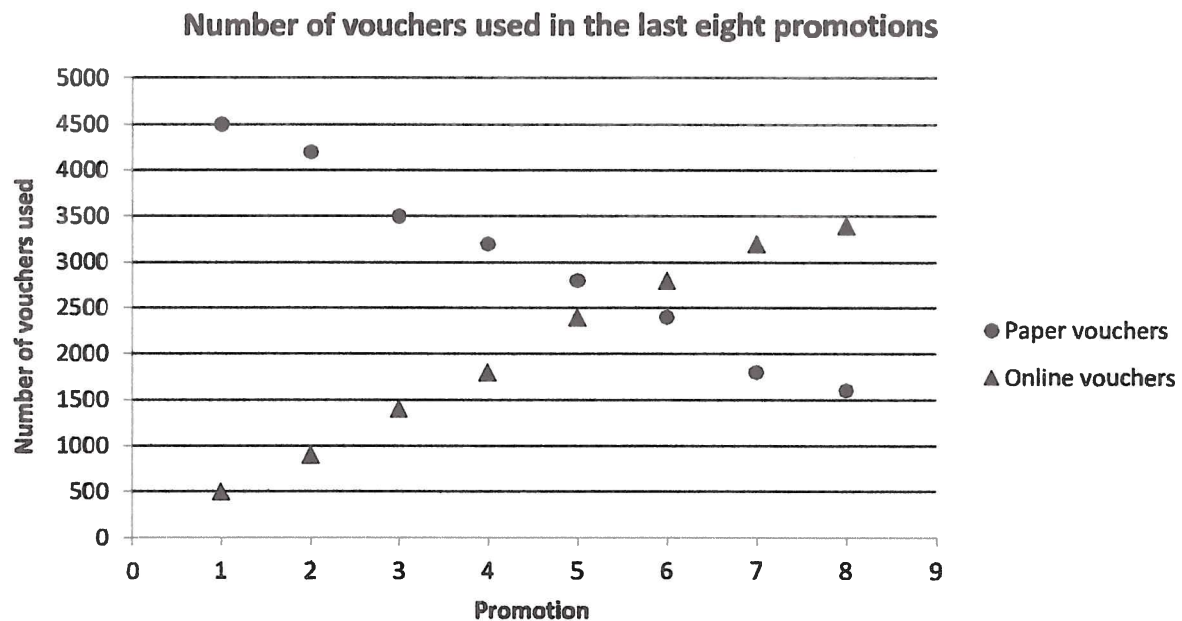Make one comment.

Fragrance did the best ✗ 0

(1 mark)

2H
The cosmetics company that produces the hand wash uses money-off vouchers to promote new products.

This graph shows how many vouchers customers used in the last 8 promotions.
Promotion 9 will be for the new hand wash.

Number of vouchers used in the last eight promotions

Draw trend lines (lines of best fit) on the graph for each type of voucher.

Extend your trend lines and use them to predict how many paper vouchers will be used and how many online vouchers will be used in Promotion 9.

Paper vouchers | 4500

Online vouchers | 500

(4 marks)

2I

The company spends the same amount of money to pay for vouchers for each promotion. Half of the money is spent on paper vouchers and the other half on online vouchers.

Use your results and the graph to decide whether the company should continue to spend money on paper vouchers for Promotion 9.

Explain your answer.

Should the company continue to spend money on paper vouchers?	Yes	No
(Tick one)		✓

Explanation

✗   O

(1 mark)

2J

As part of the promotion, the company will put a code on each bottle of hand wash.

25% of the codes will win the customer a prize.
1 in 10 of the prizes are cinema tickets.

Work out the probability of not winning a prize.

Draw a tree diagram to show the probabilities of winning cinema tickets **and** of winning other prizes **and** not winning a prize.

Use your tree diagram to work out the probability that a customer who buys one bottle of the hand wash will win cinema tickets.

Probability of not winning a prize $\frac{3}{4}$

Draw you tree diagram here

$\frac{1}{4}$ prize

$\frac{1}{10}$ cinema tickets

$\frac{9}{10}$ other prize.

$\frac{3}{4}$ no prize

Space for working

25% of 10%

2.5%

Probability of winning a cinema ticket _____

4

(4 marks)

End of Assessment