Please check the examination details below before entering your candidate information

Candidate surname	Other names

Centre Number | Candidate Number

Pearson Edexcel Level 1/Level 2 GCSE (9–1)

Friday 19 May 2023

Morning (Time: 1 hour 30 minutes)

Paper reference **1MA1/1F**

Mathematics

PAPER 1 (Non-Calculator)

Foundation Tier

Shadow Set 1

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser, Formulae Sheet (enclosed). Tracing paper may be used.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided
  – *there may be more space than you need.*
- You must **show all your working.**
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- **Calculators may not be used.**

Information

- The total mark for this paper is 80.
- The marks for **each** question are shown in brackets
  – *use this as a guide as to how much time to spend on each question.*

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

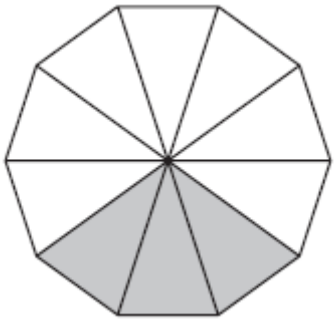
1 Write 64% as a decimal.

.....

(Total for Question 1 is 1 mark)

---

2 What fraction of this shape is unshaded?



.....

(Total for Question 2 is 1 mark)

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3 Here is a list of numbers.

2.6 2.4 3.1 1.5 2.3

From the list, write down the smallest number.

.....

(Total for Question 3 is 1 mark)

---

4 Work out $-3 + 5$

.....

(Total for Question 4 is 1 mark)

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5 Solve $7 - p = 3$

$p =$ .....

(Total for Question 5 is 1 mark)

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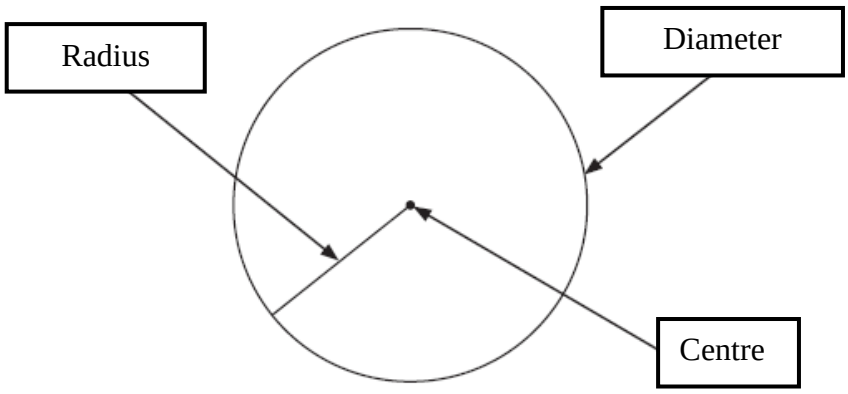
6 Freddie adds labels to this diagram of a circle.



Explain why one of the labels is wrong.

.....

.....

(Total for Question 6 is 1 mark)

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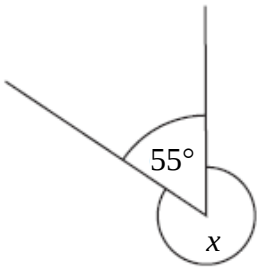
7 Write down **three** different factors of 30

..... , ... , ...

(Total for Question 7 is 2 marks)

8



(a) Work out the size of the angle marked x.

..... °

(2)

A student says that an angle of 55° is a reflex angle.
The student is wrong.

(b) Explain why.

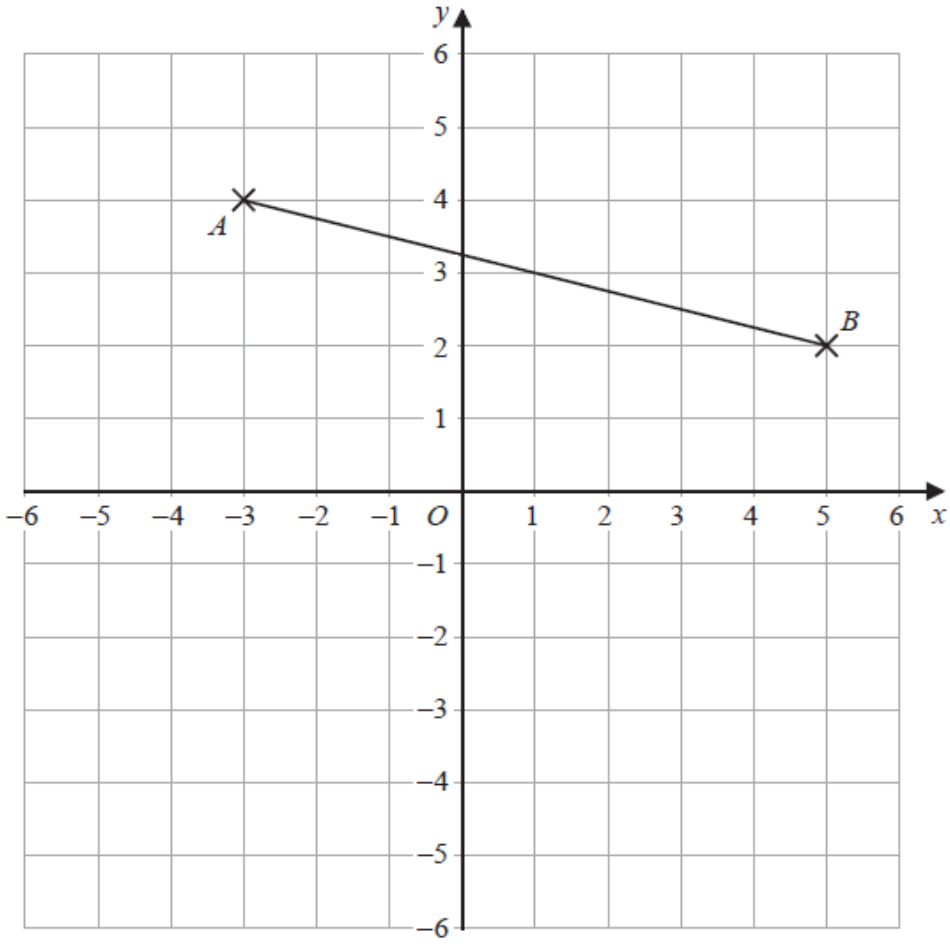
.....

.....

(1)

(Total for Question 8 is 3 marks)

9



(a) Write down the coordinates of point *A*.

(..... , ...)

(1)

(b) Plot the point with coordinates (–4, –3)
Label this point *C*.

(1)

(c) Write down the coordinates of the midpoint of *AB*.

(..... , ...)

(1)

(d) Draw the line with equation $x = -5$

(1)

(Total for Question 9 is 4 marks)

10 Jenny sees this special offer in a shop.

Buy one large bowl and get one small bowl for half the normal price.

The normal price of a large bowl is £5
The normal price of a small bowl is £3

Jenny wants to buy 8 large bowls and 4 small bowls using this offer.
She has £45

Has Jenny got enough money?
You must show how you get your answer.

(Total for Question 10 is 4 marks)

11 A total of 800 tickets were on sale for a concert.

262 of the tickets were **not** sold.

(a) How many tickets were sold?

.....

(2)

For a different concert,

303 tickets were sold for £20.50 each.
405 tickets were sold for £31 each.

(b) Work out an estimate for the total amount of money paid for these tickets.
You must show all your working.

£.....

(3)

(c) Is your answer to part (b) an underestimate or an overestimate?
Give a reason for your answer.

.....

.....

.....

(1)

(Total for Question 11 is 6 marks)

12 Here are 8 numbers.

13 5 6 11 3 7 6 5

Work out the mean.

.....

(Total for Question 12 is 2 marks)

---

13 (a) Simplify $\frac{15h}{5}$

.....

(1)

(b) Simplify $21 - 7b + 4c + 5b - c$

.....

(2)

(c) Factorise $9d - 6$

.....

(1)

(Total for Question 13 is 4 marks)

---

14 Last week, 67% of the tickets sold for a pantomime were children's tickets.

(a) What percentage of the tickets sold were **not** children's tickets?

.....%

(1)

Some people watched another pantomime.

number of adults : number of children = 3 : 8

(b) What fraction of these people were adults?

.....

(1)

On Friday,

200 people saw a play at the theatre.
12% of these people were children.

On Saturday,

240 people saw a play at the theatre.
$\frac{1}{8}$ of these people were children.

Karen thinks more children saw a play on Saturday than on Friday.

(c) Is Karen correct?
You must show how you get your answer.

(3)

(Total for Question 14 is 5 marks)

15 Work out $\frac{4}{7} \times \frac{11}{12}$

Give your answer as a fraction in its simplest form.

.....

(Total for Question 15 is 2 marks)

---

16 Here is the list of ingredients for making 15 biscuits.

Ingredients for 15 biscuits
120 g butter 80 g sugar 220 g flour

Helen wants to make 60 biscuits.

How much sugar does Helen need?

..... g

(Total for Question 16 is 2 marks)

---

17 There are 200 counters in a bag.

52 counters are red.
73 counters are blue.

The rest of the counters are yellow or green.
There are twice as many yellow counters as green counters.

What percentage of the counters in the bag are green?

.....%

(Total for Question 17 is 4 marks)

---

18 Terry has m bags of lemons and n crates of lemons.

There are 7 lemons in each bag.
There are 32 lemons in each crate.

Terry has a total of A lemons.

Write a formula for A in terms of m and n.

.....

(Total for Question 18 is 3 marks)

---

19 Here are the first five terms of an arithmetic sequence.

–4 2 8 14 20

Find an expression, in terms of n, for the nth term of this sequence.

.....

(Total for Question 19 is 2 marks)

---

20 Work out $4.62 \div 0.12$

.....

(Total for Question 20 is 3 marks)

---

21 Work out $5\frac{3}{10} - 3\frac{2}{5}$

Give your answer as a mixed number.

.....

(Total for Question 21 is 3 marks)

---

22 A cube has a total volume of 64 cm^3

Work out the surface of the cube.

..... cm^2

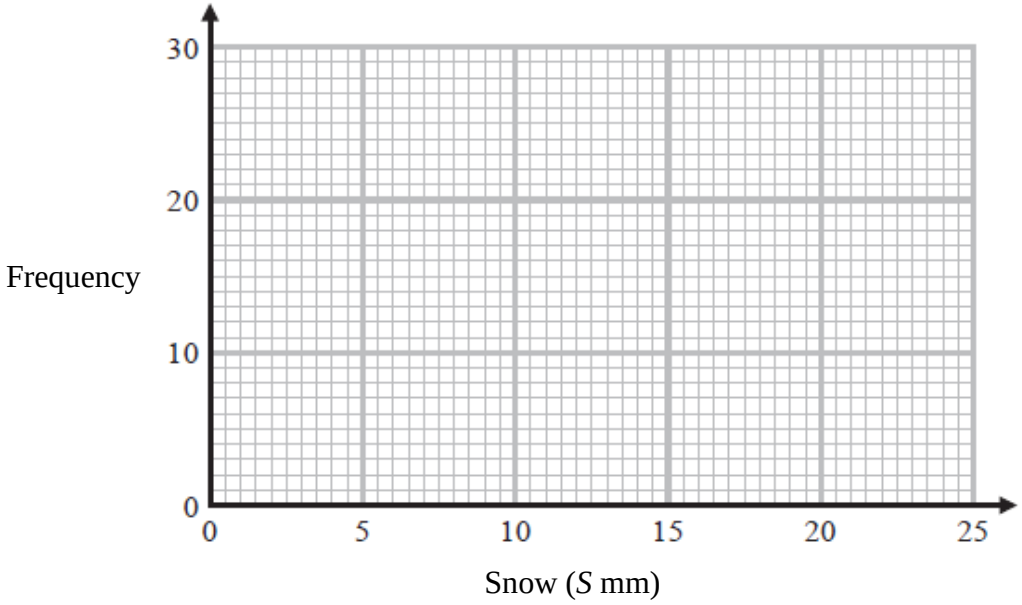
(Total for Question 22 is 4 marks)

---

23 The table shows information about the amount of snow, in mm, in a town for 70 days in winter.

Snow (S mm)	Frequency
$0 \leq S < 5$	2
$5 \leq S < 10$	22
$10 \leq S < 15$	17
$15 \leq S < 20$	9
$20 \leq S < 25$	14

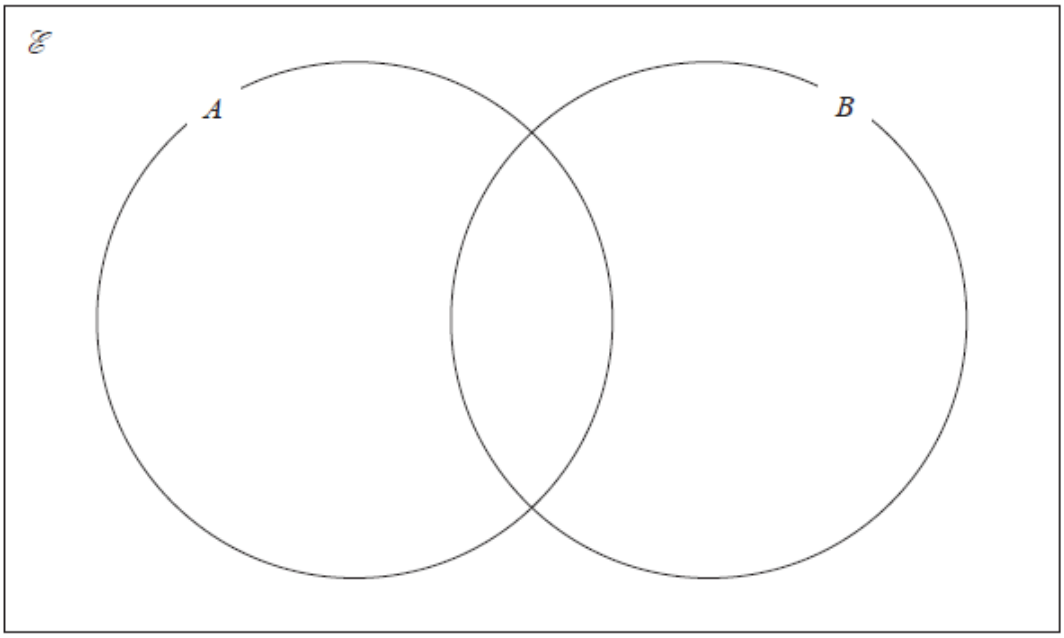
Draw a frequency polygon for this information.



(Total for Question 23 is 2 marks)

24 $\mathscr{E}$ = 1, 2, 3, 4, 5, 6, 7, 8, 9, 10}
A = {even numbers}
B = {square numbers}

(a) Complete the Venn diagram for this information.



(3)

A number is chosen at random from the universal set $\mathscr{E}$

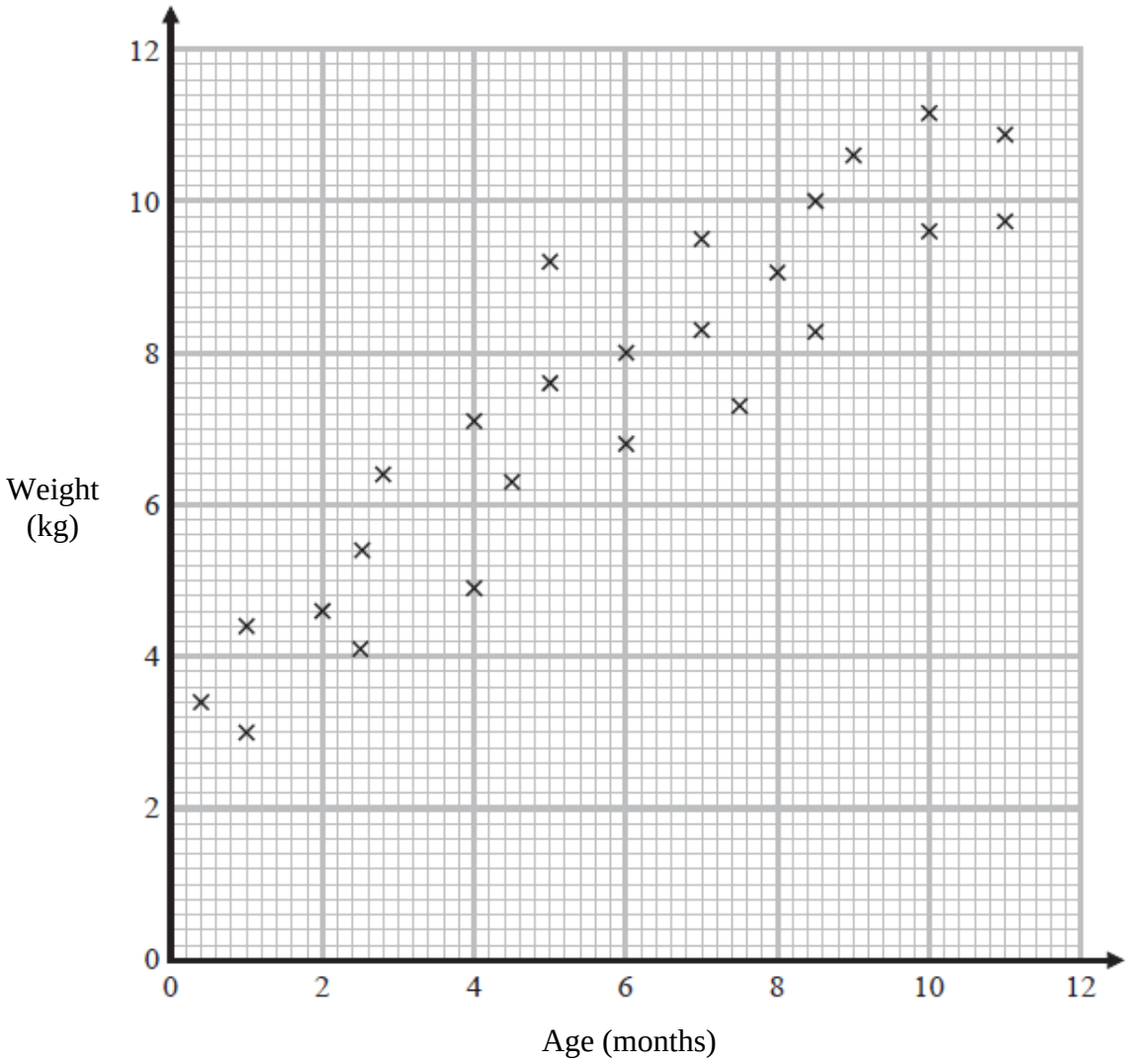
(b) Find the probability that this number is in the set A'

.....

(2)

(Total for Question 24 is 5 marks)

25 The scatter graph shows information about the ages and weights of some newborn monkeys.



(a) Describe the relationship between the age and the weight of the monkeys.

.....

.....

.....

(1)

Another monkey has a weight of 8.4 kg

(b) Using the scatter graph, find an estimate for the age of this monkey.

..... months

(2)

(Total for Question 25 is 3 marks)

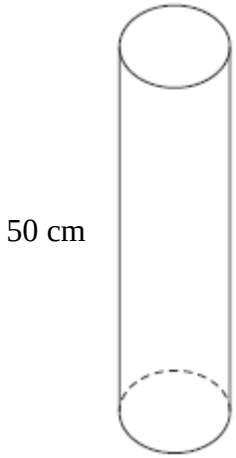
26 The price of a computer increases by 15%
This 15% increase adds £375 to the price of the computer.

Work out the price of the computer before the increase.

£.....

(Total for Question 26 is 2 marks)

27 The diagram shows a solid cylinder on a horizontal floor.



$$\text{pressure} = \frac{\text{force}}{\text{area}}$$

The cylinder has a

volume of 1500 cm^3

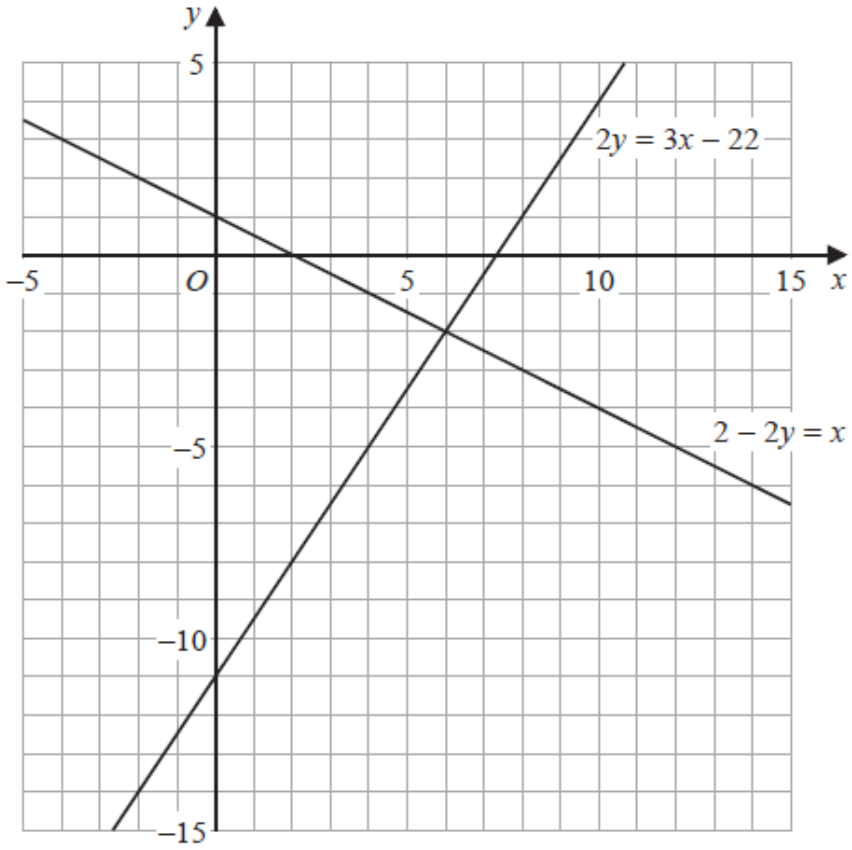
height of 50 cm.

The cylinder exerts a force of 120 newtons on the floor.
Work out the pressure on the floor due to the cylinder.

..... newtons/cm^2

(Total for Question 27 is 3 marks)

28



Use these graphs to solve the simultaneous equations

$$2y = 3x - 22$$

$$2 - 2y = x$$

x = ...

y = ...

(Total for Question 28 is 1 mark)

---

29 Work out the value of $\dfrac{5^{-3} \times 5^{6}}{5}$

.....

(Total for Question 29 is 2 marks)

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30 Write down the exact value of cos 30°

.....

(Total for Question 30 is 1 mark)

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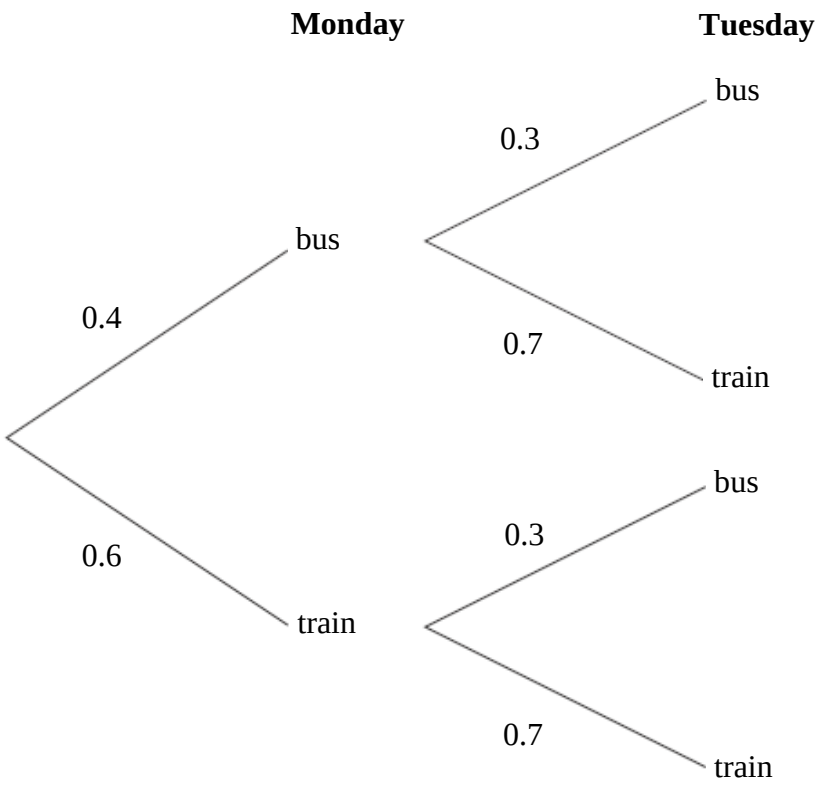
31 The probability tree diagram shows the probabilities that Simon will take the bus or train to work on two days next week.



Work out the probability that Simon will take the train on Monday and take the bus on Tuesday.

.....

(Total for Question 31 is 2 marks)

TOTAL FOR PAPER IS 80 MARKS

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