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)

## Wednesday 7 June 2023

Morning (Time: 1 hour 30 minutes)

Paper reference **1MA1/2F**

# Mathematics

## PAPER 2 (Calculator)
## Foundation Tier

**You must have:** Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser, calculator, 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 be used.**
- If your calculator does not have a $\pi$ button, take the value of $\pi$ to be 3.142 unless the question instructs otherwise.

### 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.
- Try to answer every question.
- Check your answers if you have time at the end.

*Turn over* ▶

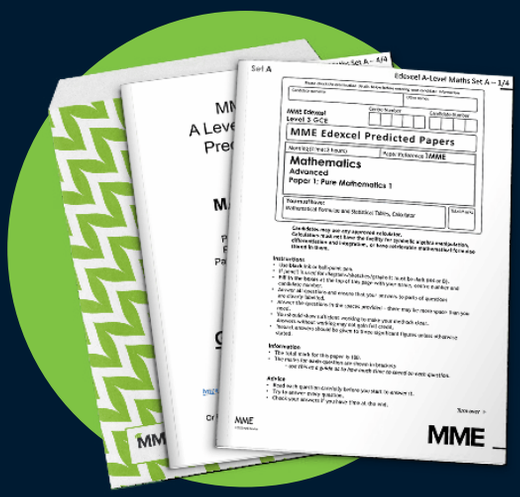
P75149A



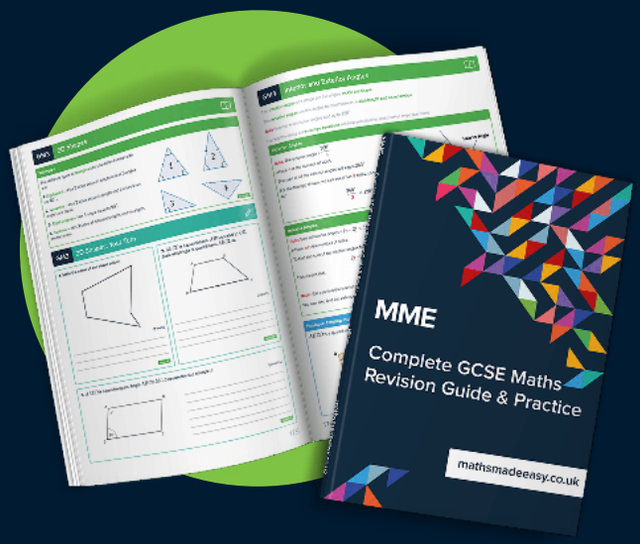
P 7 5 1 4 9 A 0 1 2 4

Pearson

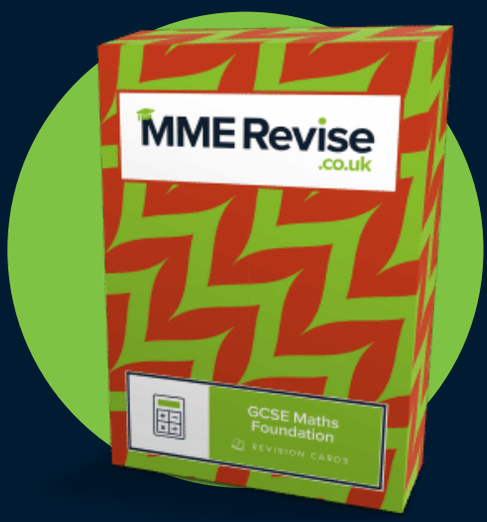
# MME. GCSE Revision - GCSE Maths




GCSE Maths Predicted Papers 2024




GCSE Maths Revision Guide




GCSE Maths Revision Cards


Course in a Box – GCSE Maths (Guaranteed Pass)

View All GCSE Maths

mmerevise.co.uk

**Answer ALL questions.**

**Write your answers in the spaces provided.**

**You must write down all the stages in your working.**

**1** Write 6184 correct to the nearest hundred.

6200

**(Total for Question 1 is 1 mark)**

**2** Write 0.7 as a fraction.

$\frac{7}{10}$

**(Total for Question 2 is 1 mark)**

**3** Change 9 metres into centimetres.

$9 \times 100 = 900$

900 centimetres

**(Total for Question 3 is 1 mark)**

**4** Simplify $3 \times 4t$

$12t$

**(Total for Question 4 is 1 mark)**

**5** Here is a list of numbers.

20 40 60 80 100

One of these numbers is a multiple of 25

Which number?

25, 50, 75, 100, ...

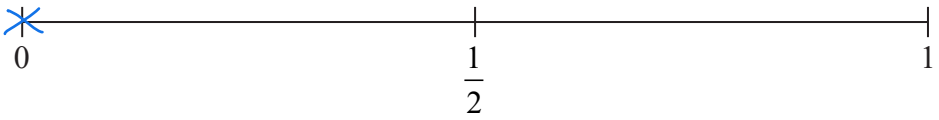
100

**(Total for Question 5 is 1 mark)**

**6** Shari has a fair ordinary dice.

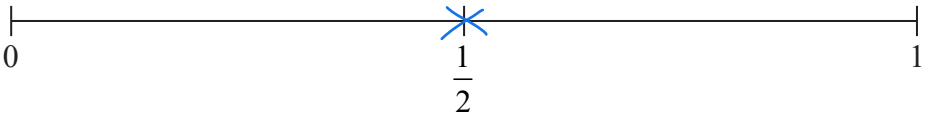
She rolls the dice once.

(a) On the probability scale, mark with a cross (×) the probability that Shari gets the number 7




**(1)**

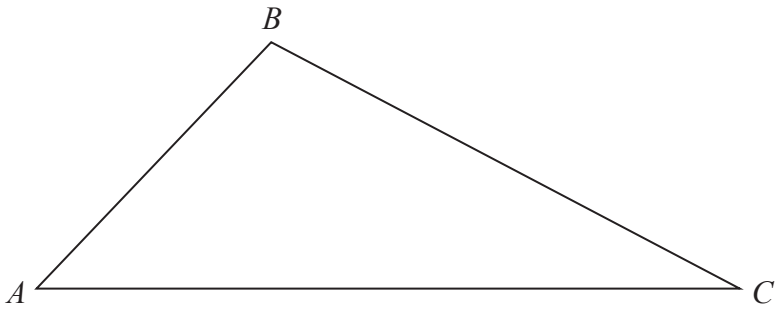
(b) On the probability scale, mark with a cross (×) the probability that Shari gets an even number.




**(1)**

**(Total for Question 6 is 2 marks)**

**7** Here is a triangle.
The triangle is accurately drawn.




(a) Measure the length of $AC$.

9.3 cm

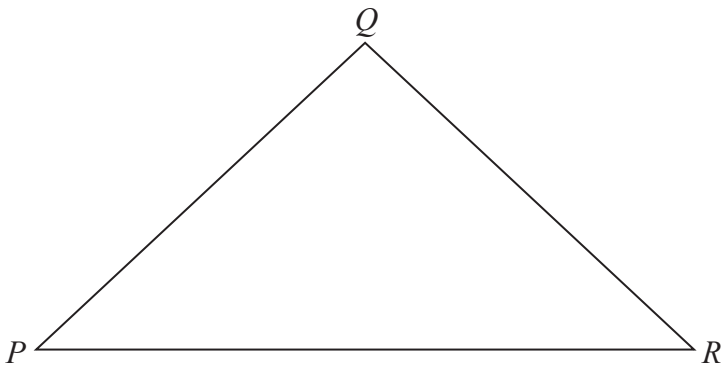
**(1)**

(b) Measure the size of angle $B$.

106 °

**(1)**

Here is a different triangle.




$QP = QR$

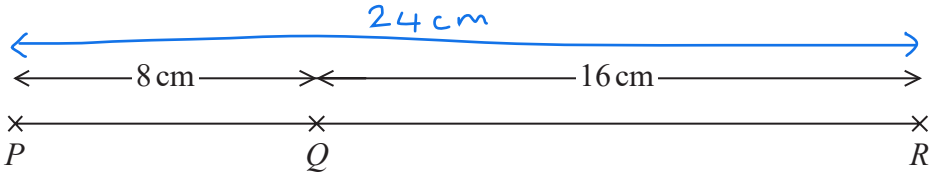
(c) Write down the mathematical name of this triangle.

Isosceles

**(1)**

**(Total for Question 7 is 3 marks)**

**8** The diagram shows three motorway service stations $P$, $Q$ and $R$ on a map.




The map has a scale of 1 cm = 4 km.

Work out the real distance from $P$ to $R$.

1 cm = 4 km
×24
24 cm = 96 km
×24

96 km

**(Total for Question 8 is 3 marks)**

**9** Here are the first five terms of a sequence.

3 (+5) 8 (+5) 13 (+5) 18 (+5) 23 (+5) 28

(a) Write down the next term of this sequence.

23 + 5 = 28

28

**(1)**

(b) Write down the ratio of the second term to the fourth term.
Give your ratio in its simplest form.

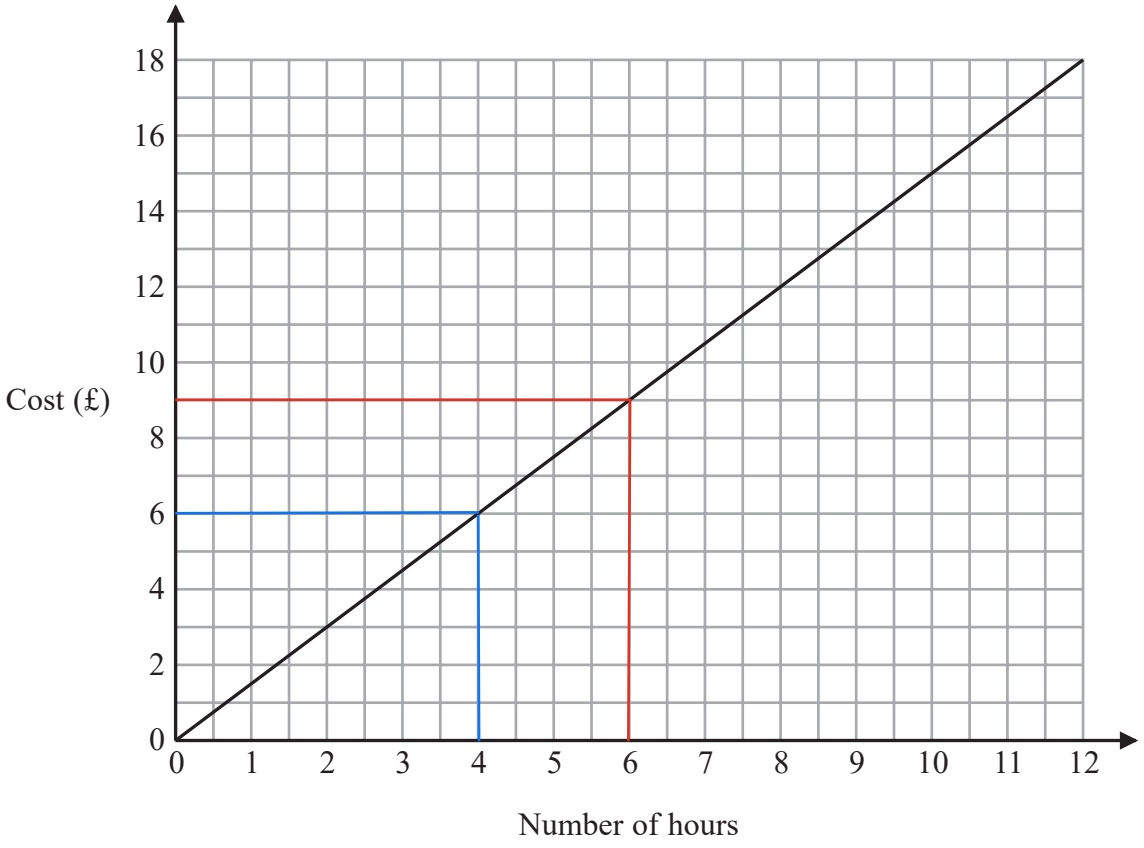
8 : 18
4 : 9

4 : 9

**(2)**

**(Total for Question 9 is 3 marks)**

**10** This graph can be used to find the cost of parking a car in a car park for up to 12 hours.




(a) Use the graph to find the cost of parking a car for 4 hours.

£ 6

**(1)**

Justin drives into the car park at 0800 in the morning.
When he drives out of the car park he has to pay £9

(b) At what time does Justin drive out of the car park?

From graph £9 = 6 hours

8:00 + 6 hrs is 14:00 or 2pm

14:00

**(3)**

**(Total for Question 10 is 4 marks)**

**11** The table shows information about the weights of the people in a hotel lift.

| Weight | Number of people | total |
|---|---|---|
| 40 kg | 1 | 40 × 1 = 40 |
| 50 kg | 2 | 50 × 2 = 100 |
| 60 kg | 4 | 60 × 4 = 240 |
| 70 kg | 5 | 70 × 5 = 350 |
| 80 kg | 3 | 80 × 3 = 240 |
| 90 kg | 1 | 90 × 1 = 90 |

Show that the total weight of the people in the lift is less than 1200 kg.

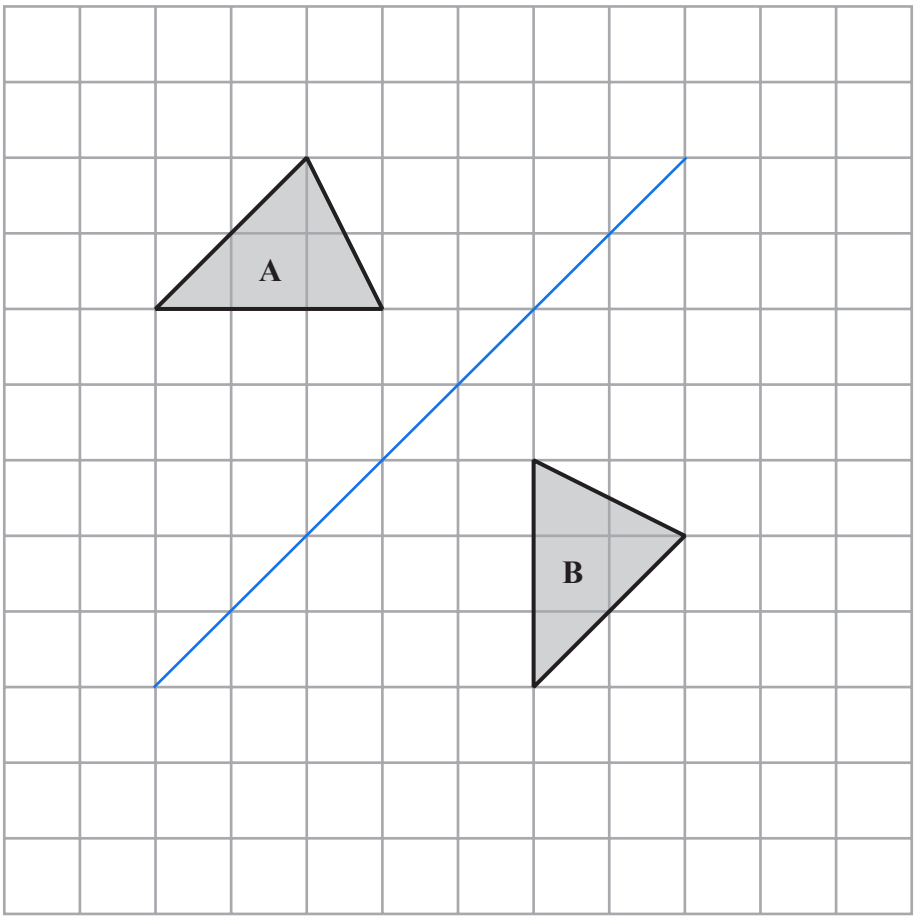
Total = 40 + 100 + 240 + 350 + 240 + 90

= 1060 kg

less than 1200kg

**(Total for Question 11 is 3 marks)**

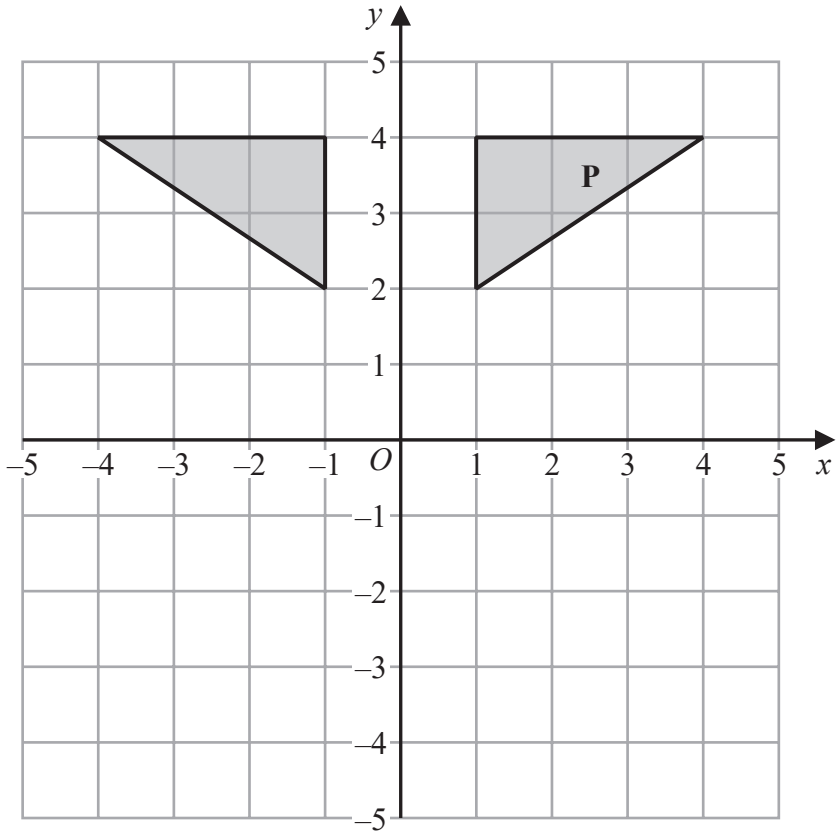
**12** Shape **A** is reflected in a mirror line to give shape **B**.




(a) On the grid, draw the mirror line.

**(1)**

(b) Alex is asked to reflect shape **P** in the $x$-axis.
Here is the diagram Alex draws.




Explain the mistake Alex has made.

He has reflected in y axis rather than xc axis

(1)

**(Total for Question 12 is 2 marks)**

**13** There are 50 teachers in a school.

This is $\frac{1}{16}$ of the total number of people in the school.

Work out the total number of people in the school.

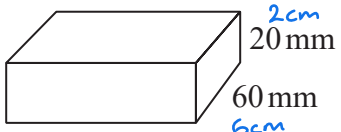
50 × 16 = 800

$$\begin{array}{r} 50 \\ \times\ 16 \\ \hline 300 \\ +\ 500 \\ \hline 800 \end{array}$$

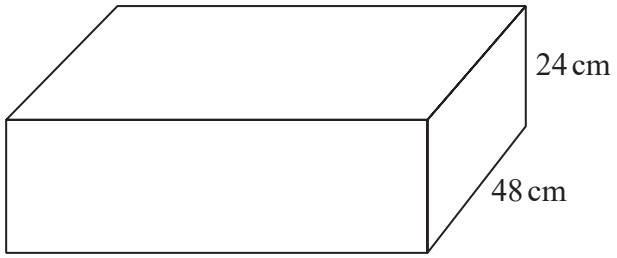
800

**(Total for Question 13 is 2 marks)**

**14** Packets of sweets are put into boxes.




80 mm
8 cm
Packet




72 cm

Box

Each packet is a cuboid, 80 mm by 60 mm by 20 mm.
Each box is a cuboid, 72 cm by 48 cm by 24 cm.

Work out the greatest number of packets that can be put into each box.

volume of packet = $8 \times 6 \times 2 = 96\ cm^3$

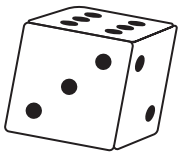
volume of box = $72 \times 48 \times 24 = 82,944\ cm^3$

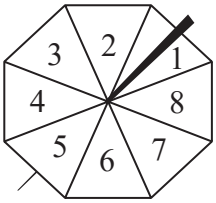
$82944 \div 96 = 864$ packets per box

864

**(Total for Question 14 is 4 marks)**

**15** Here is a fair ordinary dice and a fair 8-sided spinner.






Charlie throws the dice once and spins the spinner once.

Is Charlie more likely to get

a number less than 3 on the dice
**or** a number greater than 5 on the spinner?

You must show all your working.

Dice

roll 1 or 2

so 2 options out of 6

$\frac{2}{6}$

$\frac{2}{6} = \frac{8}{24}$

Spinner

Spin 6, 7 or 8

so 3 options out of 8

$\frac{3}{8}$

$\frac{3}{8} = \frac{9}{24}$

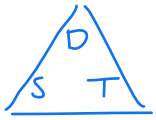
Spinner has higher probability

**(Total for Question 15 is 3 marks)**

**16** Paulo drives at an average speed of 56 km/h for 1 hour 45 minutes.

Work out the distance Paulo drives.

1 hour 45 minutes = 1.75 hrs




distance = speed × time

= 56 × 1.75

= 98 km

98 km

**(Total for Question 16 is 3 marks)**

**17** There are 3 cinemas **A**, **B** and **C**.

The mean number of seats per cinema is 380

There are 350 seats in cinema **A**.
There are 250 seats in cinema **B**.

Work out the number of seats in cinema **C**.

380 × 3 = 1140 seats in total

1140 − 350 − 250 = 540 seats in cinema C

540

**(Total for Question 17 is 4 marks)**

**18** Asha buys 180 cans of cola.

The cans are sold in packs.
There are 12 cans in each pack.
Each pack costs £3

(a) Work out the total cost of the cola Asha buys.

180 ÷ 12 = 15 packs

15 × £3 = £45

£ 45

**(3)**

Ethan buys a box of 24 cans of lemonade for £7
There are 330 m*l* of lemonade in each can.

(b) Work out the cost of 100 m*l* of lemonade.
Give your answer correct to the nearest penny.

24 × 330ml = 7920 ml in total

7920 ml cost £7

÷7920 ↓ 1ml costs £0.00088383838

×100 ↓ 100ml costs £0.08838...

×100 ↓ = 8.8p

9p to nearest penny

9 p

**(3)**

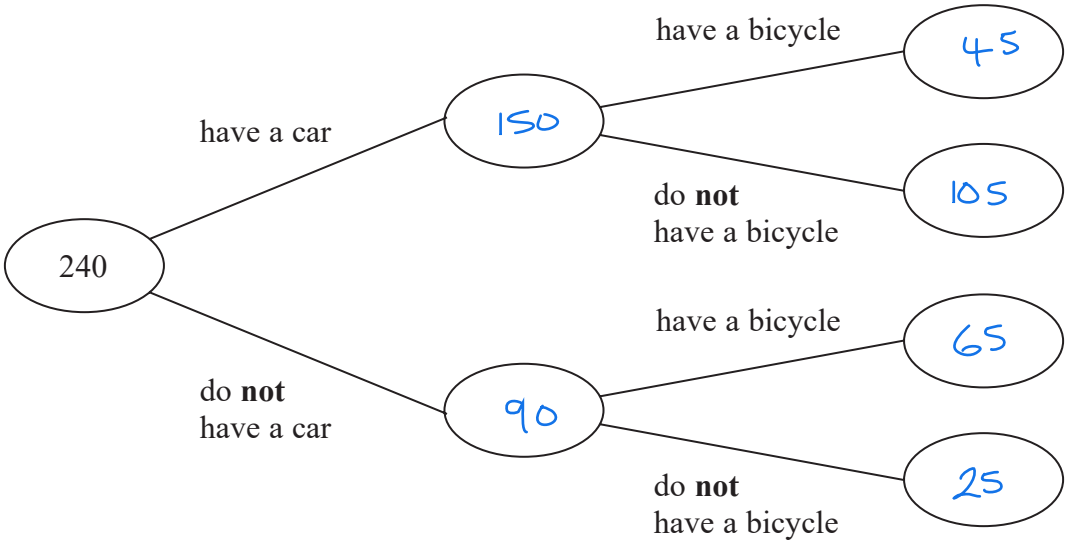
**(Total for Question 18 is 6 marks)**

**19** 240 people work at a factory.

Of these people

150 have a car
110 have a bicycle
65 of the people who have a bicycle do **not** have a car.

(a) Use this information to complete the frequency tree.




**(3)**

(b) What percentage of the 150 people who have a car also have a bicycle?

$\frac{45}{150} \times 100 = 30\%$

30 %

**(2)**

**(Total for Question 19 is 5 marks)**

**20** (a) Work out the value of $\dfrac{25 - \sqrt{43.87}}{6 + 2.1^2}$

Write down all the figures on your calculator display.

1·76527923

**(2)**

(b) Work out the value of the reciprocal of 0.625

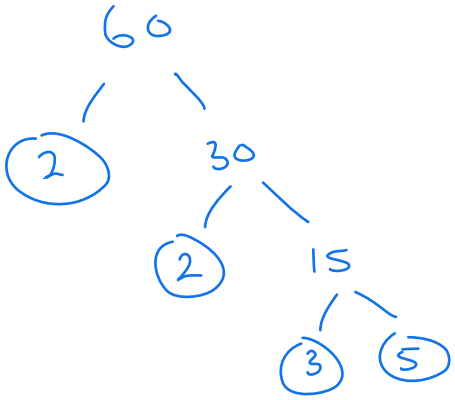
reciprocal is $\dfrac{1}{0.625} = \dfrac{8}{5} = 1.6$

1·6

**(1)**

**(Total for Question 20 is 3 marks)**

**21** Write 60 as a product of its prime factors.




$2 \times 2 \times 3 \times 5$

**(Total for Question 21 is 2 marks)**

**22** There are 48 counters in a bag.
There are only red counters and blue counters in the bag.

number of red counters : number of blue counters = 1 : 2

Helen has to work out how many red counters are in the bag.

She says,

"There are 24 red counters in the bag because 1 is half of 2 and 24 is half of 48"

Is Helen correct?
You must give a reason for your answer.

3 parts = 48 counters

1 part = 16 counters

So there are 16 red counters, not 24. Helen is not correct

**(Total for Question 22 is 1 mark)**

**23** $-2 \leqslant n < 5$

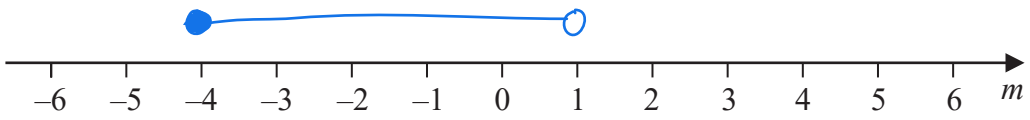
$n$ is an integer. whole number

(a) Write down the greatest possible value of $n$.

4

**(1)**

(b) On the number line below, show the inequality $-4 \leqslant m < 1$




**(2)**

(c) Solve $\frac{2}{5}g - 4 < 6$

$\frac{2}{5}g < 10$ (+4)

$2g < 50$ (×5)

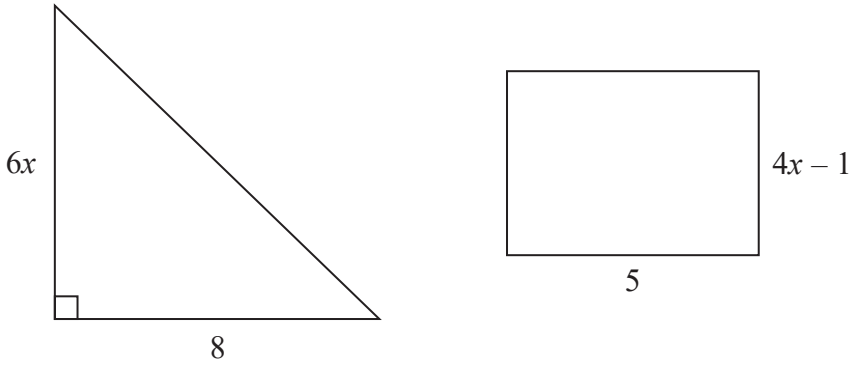
$g < 25$ (÷2)

$g < 25$

**(3)**

**(Total for Question 23 is 6 marks)**

**24** Here is a triangle and a rectangle.




All measurements are in centimetres.

The area of the triangle is $10\,cm^2$ greater than the area of the rectangle.

Work out the value of $x$.

Area of triangle = $\frac{6x \times 8}{2}$ = $24x$

Area of rectangle = $5 \times (4x - 1)$ = $20x - 5$

Area of triangle is 10cm greater so $24x = 20x - 5 + 10$

$24x = 20x + 5$

$4x = 5$

$x = \frac{5}{4} = 1.25$

$x =$ 1-25

**(Total for Question 24 is 4 marks)**

**25** Last year a family recycled 800 kg of household waste.
57% of this waste was paper and glass.

weight of paper recycled : weight of glass recycled = 12 : 7

Calculate the weight of glass the family recycled.

57% of 800 kg = $\frac{57}{100}$ × 800 = 456 kg was paper and glass

12 + 7 = 19 parts

19 parts = 456 kg

1 part = 24 kg

7 parts = 168 kg of glass recycled

168 kg

**(Total for Question 25 is 3 marks)**

**26** A number, $d$, is rounded to 1 decimal place.
The result is 12.7

Complete the error interval for $d$.

12·65 $\leqslant d <$ 12·75

**(Total for Question 26 is 2 marks)**

**27** Tamsin buys a house with a value of £150 000
The value of Tamsin's house increases by 4% each year.

100 % + 4 % = 104 %
= 1·04

Rachel buys a house with a value of £160 000
The value of Rachel's house increases by 1.5% each year.

100% + 1·5% = 101·5%
= 1·015

At the end of 2 years, whose house has the greater value?
You must show how you get your answer.

Tamsin

£150,000 × 1·04 × 1·04 = £162,240

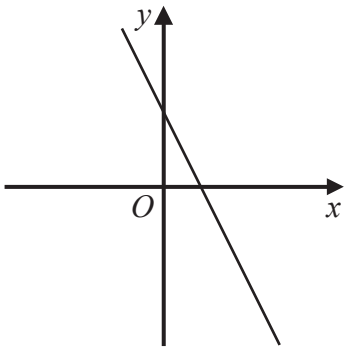
Rachel

£160,000 × 1·015 × 1·015 = £164,836

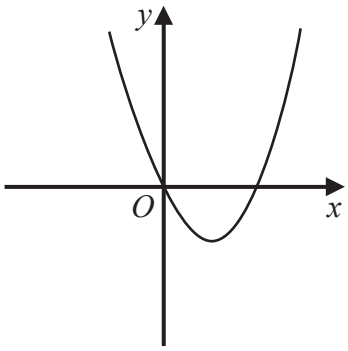
Rachel's house is worth more

**(Total for Question 27 is 4 marks)**

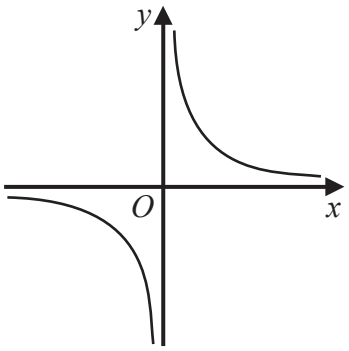
**28** Here are five graphs.



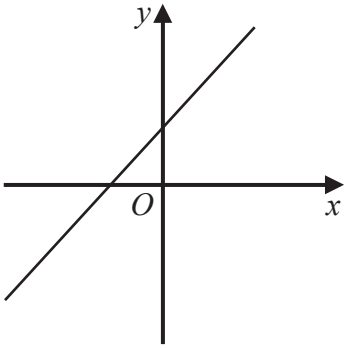

**A**



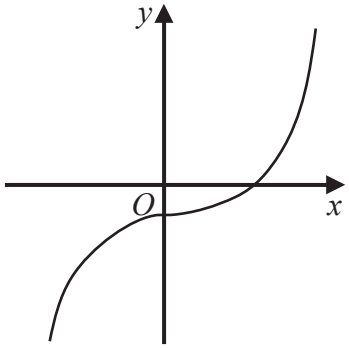

**B**




**C**




**D**




**E**

The table shows the equations of these graphs.

| Equation | Graph |
|---|---|
| $y = x^2 - 4x$ | B |
| $y = x + 3$ | D |
| $y = x^3 - 2$ | E |
| $y = \frac{1}{x}$ | C |
| $y = 5 - 2x$ | A |

Match the letter of each graph with its equation.

**(Total for Question 28 is 3 marks)**

**TOTAL FOR PAPER IS 80 MARKS**