

Write your name and the date clearly.

Name

Date

Teach Me Maths

GCSE (9–1) Mathematics

For Pearson Edexcel GCSE Mathematics (1MA1)

Mock Set A

Time: 1 hour 30 minutes

Mathematics

PAPER 2 (Calculator)

Foundation Tier

You must have: a ruler marked in centimetres and millimetres, a protractor, a pair of compasses, a pen, an HB or B pencil, an eraser, a calculator and the Formulae Sheet (last page). You may use tracing paper.

Total Marks

out of 80

Instructions

- Use **black** ink or a ball-point pen.
- If you use a pencil for diagrams, sketches or graphs, it must be dark (HB or B).
- **Write your name and the date** in the box at the top of this page.
- Answer **all** questions.
- Write your answers in the spaces provided – you may not need all the space.
- You must **show all your working**.
- Diagrams are **NOT** drawn accurately, unless the question says they are.
- You may use a calculator.
- If your calculator does not have a π button, use 3.142 for π unless the question says otherwise.

Information

- This paper is out of 80 marks.
- The marks for **each** question are shown in brackets – use them to judge how long to spend on each question.

Advice

- Read each question carefully before you start your answer.
- Try to answer every question.
- If you have time at the end, check your answers.

Practice paper written by Teach Me Maths in the style of Pearson Edexcel GCSE Mathematics (1MA1). Not an official Pearson Edexcel paper.

Turn over ►

Answer **ALL** questions. Write your answers in the spaces provided.
You must write down all the stages in your working.

- 1** Write 5837 correct to the nearest hundred.

.....
(1)

(Total for Question 1 is 1 mark)

- 2** Work out $47 - 84 \div 12$

.....
(1)

(Total for Question 2 is 1 mark)

- 3** Here are five numbers.

-2 6 -9 3 -5

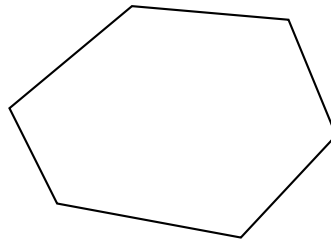
Write these numbers in order of size.

Start with the smallest number.

.....
(1)

(Total for Question 3 is 1 mark)

4 Here is a shape.



Write down the mathematical name of this shape.

.....
(1)

(Total for Question 4 is 1 mark)

5 Here are the shoe sizes of the 9 players in a netball squad.

6 5 7 6 8 5 6 4 7

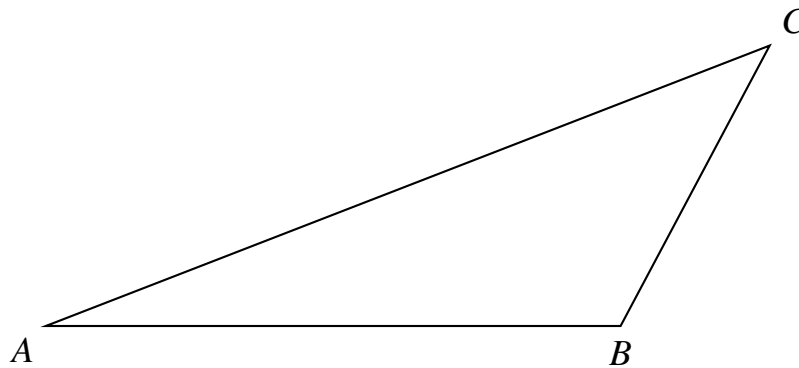
Write down the mode.

.....
(1)

(Total for Question 5 is 1 mark)

6 The diagram shows triangle ABC .

The diagram is accurately drawn. (*Print at 100% so that the measurements are correct.*)



(a) Measure the length of the line AB .

..... cm
(1)

(b) Measure the size of angle ABC .

..... °
(1)

(Total for Question 6 is 2 marks)

7 Kai works part-time at a cinema.

He is paid £12.80 for each hour he works from Monday to Friday.

He is paid time and a half for each hour he works on Saturday or Sunday.

The table shows the hours Kai works this week.

Day	Tuesday	Thursday	Friday	Saturday	Sunday
Hours worked	4	5	3	5	2

Work out how much Kai is paid for the hours he works this week.

£
(3)

(Total for Question 7 is 3 marks)

8 Here are the first five terms of a number sequence.

47 41 35 29 23

(a) Write down the next term in the sequence.

.....
(1)

(b) Write down the term-to-term rule for the sequence.

.....
(1)

(c) Lena says,

“2 is a term in this sequence.”

Explain why Lena is wrong.

(1)

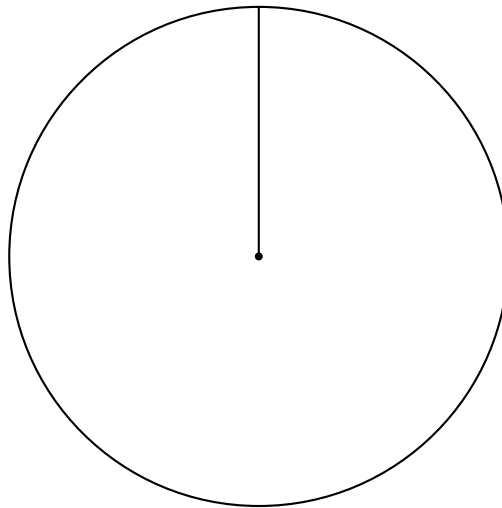
(Total for Question 8 is 3 marks)

9 Lucy asked 40 people how they travel to work.

The table shows information about her results.

Way of travelling	Number of people
Car	14
Tram	9
Bus	11
Cycle	6

Draw an accurate pie chart to show this information.



(3)

(Total for Question 9 is 3 marks)

- 10** (a) Grace drives to the coast.

She drives for 2 hours 15 minutes at an average speed of 52 mph.

Work out the distance Grace drives.

..... miles
(2)

- (b) Ifeoma paddles a kayak along a river.

She sets off at 9.40 am and stops at 11.25 am.

She paddles 11.2 km.

Ifeoma says,

“My average speed was more than 7 km/h.”

Is Ifeoma correct?

You must show how you get your answer.

(2)

(Total for Question 10 is 4 marks)

11 PQ and RS are parallel straight lines.

T is a point on PQ .

U and V are points on RS .

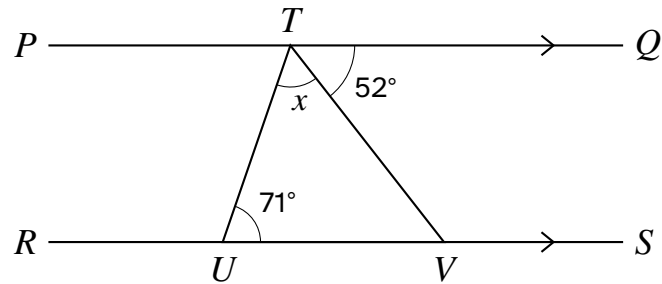


Diagram **NOT** accurately drawn

Work out the size of the angle marked x .

Give a reason for each stage of your working.

..... °
(3)

(Total for Question 11 is 3 marks)

12 (a) Simplify $6g \times 5h$

.....
(1)

(b) $D = 5r - 3s$

Work out the value of D when $r = 4.5$ and $s = -3$

$D =$
(2)

(Total for Question 12 is 3 marks)

13 Two shops sell the same bottles of sun cream.

Sunny Days Pharmacy

Sun cream
£6.80 for one bottle

Offer: buy 2 bottles,
get 1 more bottle free

Coastline Stores

Sun cream
£17.50 for a pack of 3 bottles

Offer: 20% off the
price of each pack

Ruby needs 9 bottles of this sun cream.

She wants to pay as little as possible.

Should Ruby buy the 9 bottles from Sunny Days Pharmacy or from Coastline Stores?

You must show how you get your answer.

(4)

(Total for Question 13 is 4 marks)

14 Mr Shah has a biased spinner for a school fair.

The spinner can land on pink, orange, purple or white.

The table shows the probability that the spinner will land on pink, on orange and on white.

Colour	pink	orange	purple	white
Probability	0.32	0.17		0.26

Mr Shah is going to spin the spinner 200 times.

Work out an estimate for how many more times the spinner will land on pink than on purple.

.....
(4)

(Total for Question 14 is 4 marks)

- 15** (a) Use your calculator to work out

$$\frac{\sqrt{73.9 + 5.2^2}}{3.6^3 - 2.48}$$

Write down all the figures on your calculator display.

.....
(2)

- (b) Write your answer to part (a) correct to 2 significant figures.

.....
(1)

(Total for Question 15 is 3 marks)

16 Nadia is putting new flooring in a hall.

The diagram shows the floor of the hall. All the corners are right angles.

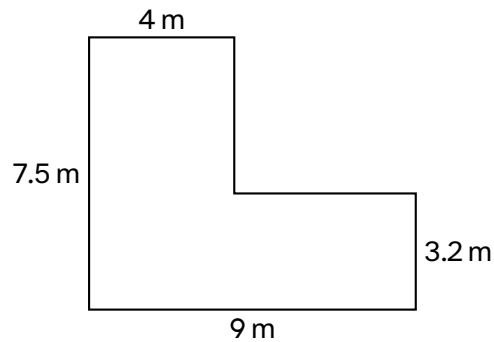


Diagram **NOT** accurately drawn

Flooring is sold in packs.

One pack covers 2.4 m^2 of floor and costs £27.85

Nadia buys the smallest number of packs she needs to cover the floor of the hall.

Work out the total cost of the packs.

£
(5)

(Total for Question 16 is 5 marks)

- 17** The length of a bridge is 138.6 metres, correct to 1 decimal place.

Let L be the length of the bridge in metres.

Complete the error interval for L .

$$\dots\dots\dots \leq L < \dots\dots\dots$$

(2)

(Total for Question 17 is 2 marks)

- 18** (a) Theo was asked to expand and simplify $4(2x + 3) - 5(x - 2)$

Here is his working.

$$\begin{aligned}4(2x + 3) - 5(x - 2) &= 8x + 12 - 5x - 10 \\&= 3x + 2\end{aligned}$$

Theo's answer is wrong.

What mistake has Theo made?

(1)

- (b) Factorise fully $15y^2 + 20y$

.....
(2)

(Total for Question 18 is 3 marks)

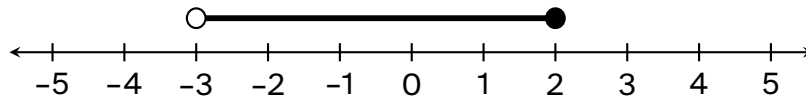
- 19** Ade runs a fruit stall at a market.
He buys a box of 60 mangoes for £42
He sells 48 of the mangoes for £1.20 each.
He sells all the other mangoes for 55p each.

Work out Ade's percentage profit.

Give your answer correct to 1 decimal place.

..... %
(4)
(Total for Question 19 is 4 marks)

20 (a) Write down the inequality in x shown on this number line.



.....
(1)

(b) Solve $7x - 4 \geq 3x + 18$

.....
(2)

(Total for Question 20 is 3 marks)

21 ABC is a right-angled triangle.

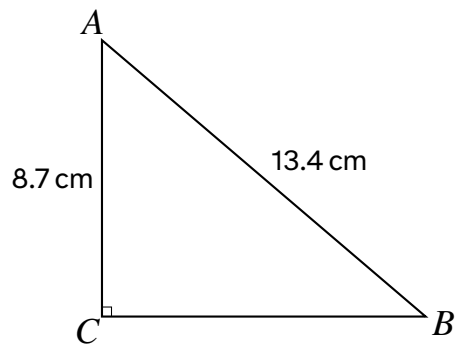


Diagram **NOT** accurately drawn

Work out the length of BC .

Give your answer correct to 3 significant figures.

..... cm
(2)

(Total for Question 21 is 2 marks)

- 22** A 250 g jar of coffee costs £8.40 in Leeds.
A 150 g jar of the same coffee costs €5.90 in Lisbon.
The exchange rate is £1 = €1.16

Callum says,

“The coffee is cheaper in Lisbon than in Leeds.”

Is Callum correct?

You must show how you get your answer.

(3)

(Total for Question 22 is 3 marks)

23 Gemma puts £3600 into a savings bond for 3 years.

The bond pays 2.4% compound interest each year.

Gemma says,

“After 3 years I will get more than £260 in interest.”

Is Gemma correct?

You must show how you get your answer.

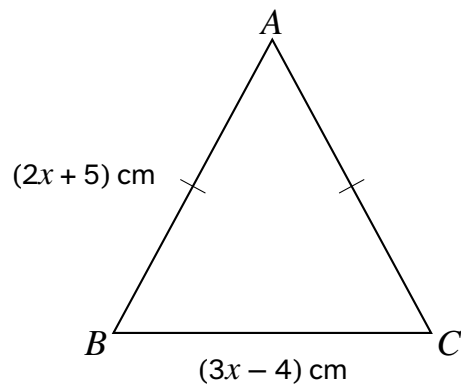
(3)

(Total for Question 23 is 3 marks)

24 ABC is an isosceles triangle with $AB = AC$.

The perimeter of the triangle is 62 cm.

All lengths are in centimetres.



*Diagram **NOT** accurately drawn*

Ewan says,

“ BC is the longest side of the triangle.”

Is Ewan correct?

You must show how you get your answer.

(4)

(Total for Question 24 is 4 marks)

25 The table shows information about the masses of 80 parcels at a sorting office.

Mass (m kg)	Frequency
$0 < m \leq 2$	14
$2 < m \leq 4$	23
$4 < m \leq 6$	19
$6 < m \leq 8$	16
$8 < m \leq 10$	8

- (a) Halima says,
 “The modal class is $8 < m \leq 10$ because it has the heaviest parcels.”

Is Halima correct?
 Give a reason for your answer.

(1)

- (b) Work out an estimate for the mean mass of the parcels.

..... kg
 (3)
(Total for Question 25 is 4 marks)

26 LMN is a right-angled triangle.

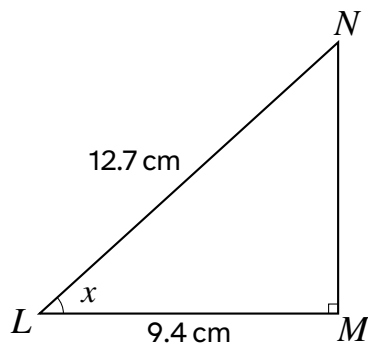


Diagram **NOT** accurately drawn

Calculate the value of x .

Give your answer correct to 1 decimal place.

$x = \dots\dots\dots$
(2)

(Total for Question 26 is 2 marks)

27 A hot tub is in the shape of a cylinder.

The hot tub is full of water.

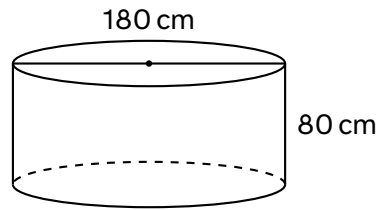


Diagram **NOT** accurately drawn

Water is pumped out of the hot tub at a rate of 1500 litres per hour.

The pump is switched on at 7.15 pm.

Jasmine says,

“The hot tub will be empty before 8.45 pm.”

Is Jasmine correct?

You must show how you get your answer.

1 litre = 1000 cm³

(5)

(Total for Question 27 is 5 marks)

- 28** Some identical printers are used to print copies of a school magazine.
5 of the printers would take 48 minutes to print all the copies.
The 5 printers start printing the copies.
After 16 minutes, 3 more printers of the same type start printing too.

Work out the total time taken to print all the copies.

..... minutes
(3)

(Total for Question 28 is 3 marks)

TOTAL FOR PAPER IS 80 MARKS

Formulae Sheet

For Pearson Edexcel GCSE Mathematics (1MA1) • Foundation Tier

Perimeter, area and volume

Where a and b are the lengths of the parallel sides and h is their perpendicular separation:

$$\text{Area of a trapezium} = \frac{1}{2}(a + b)h$$

Volume of a prism = area of cross section $\times$ length

Where r is the radius and d is the diameter:

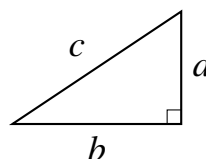
$$\text{Circumference of a circle} = 2\pi r = \pi d$$

$$\text{Area of a circle} = \pi r^2$$

Pythagoras' Theorem and Trigonometry

In any right-angled triangle where a , b and c are the lengths of the sides and c is the hypotenuse:

$$a^2 + b^2 = c^2$$

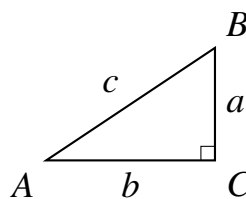


In any right-angled triangle ABC where a , b and c are the lengths of the sides and c is the hypotenuse:

$$\sin A = \frac{a}{c}$$

$$\cos A = \frac{b}{c}$$

$$\tan A = \frac{a}{b}$$



Compound Interest

Where P is the principal amount, r is the interest rate over a given period and n is the number of times that the interest is compounded:

$$\text{Total accrued} = P \left(1 + \frac{r}{100} \right)^n$$

Probability

Where $P(A)$ is the probability of outcome A and $P(B)$ is the probability of outcome B :

$$P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$$