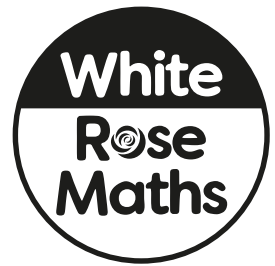


For: Pearson Edexcel GCSE (9–1)

GCSE

Practice Paper 1MA1



Mathematics

Paper 2H (Calculator) Higher Tier



Surname

Other names

You should have:

- A pen, pencil, ruler, eraser and a scientific calculator.
- Tracing paper may be used.
- A formula sheet.

Information

- The total mark for this paper is 80
- The marks for each question are shown in brackets.
- Answer all 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.
- Check your answers if you have time at the end.

1 Use your calculator to work out

$$\frac{2.95 + 4.63}{3.2 \times 0.75}$$

Write down all the figures on your calculator display.

You must give your answer as a decimal.

(2 marks)

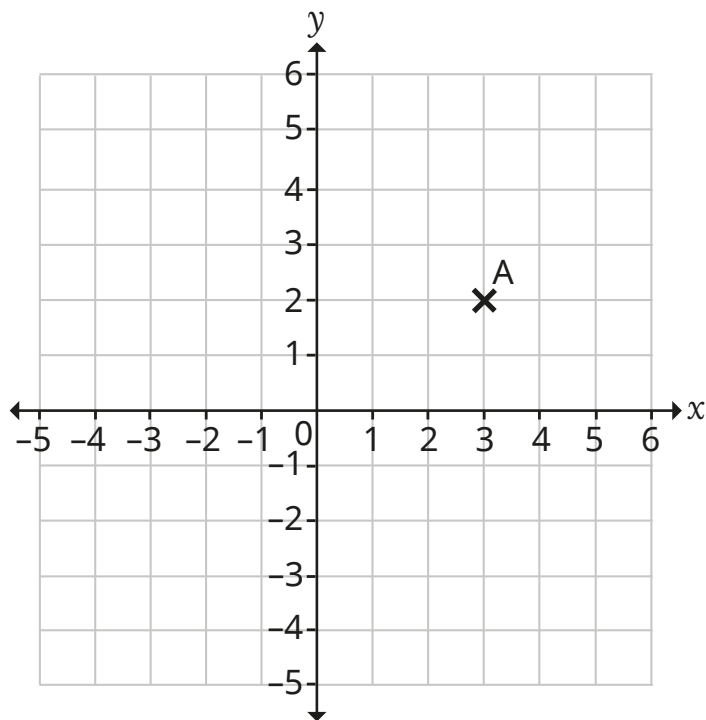
2 a) Factorise $6a + 3$

(1 mark)

b) Expand and simplify $3(2p - 5) + 2(p + 3)$.

(2 marks)

3



a) Write down the coordinates of point A.

_____ (1 mark)

Point B has coordinates $(-1, 2)$.

b) Plot point B on the grid.

(1 mark)

ABC is an isosceles triangle.

The coordinates of point C are $(p, 5)$.

c) Find the value of p .

_____ (1 mark)

4 a) Simplify $y^8 \div y^2$

(1 mark)

b) Simplify $(2z^5)^3$

(2 marks)

5 In the USA, the cost of a phone is \$1200

In the UK, the cost of the same phone is £920

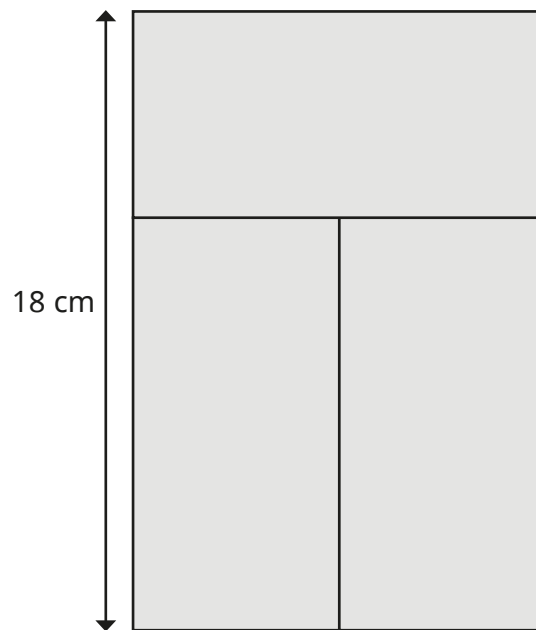
Using the exchange rate £1 = \$1.36, work out the difference in cost of the phone in the USA and the UK.

(2 marks)

- 6** Mr Singh buys a computer for £2500
Each year the value of the computer depreciates by 7.2%.
Calculate how much the computer is worth after 2 years.

(3 marks)

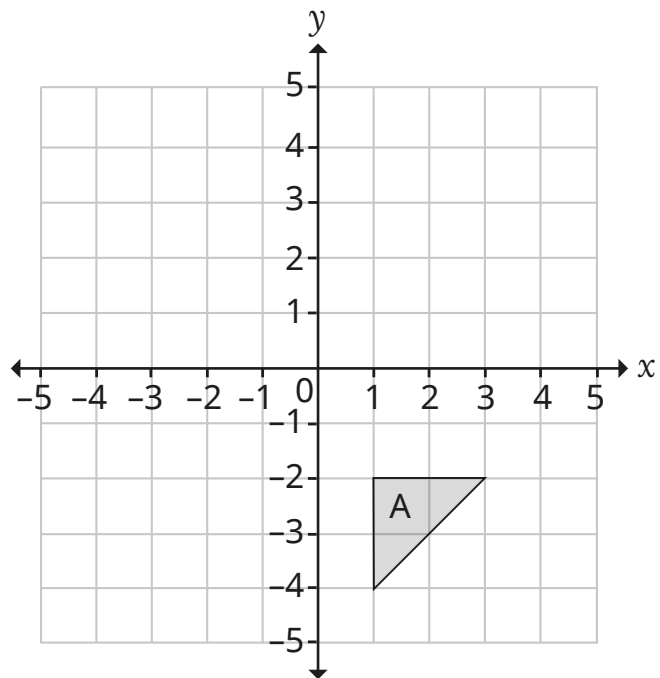
- 7** A shape is made from three congruent rectangles.



Work out the area of the shape.

(3 marks)

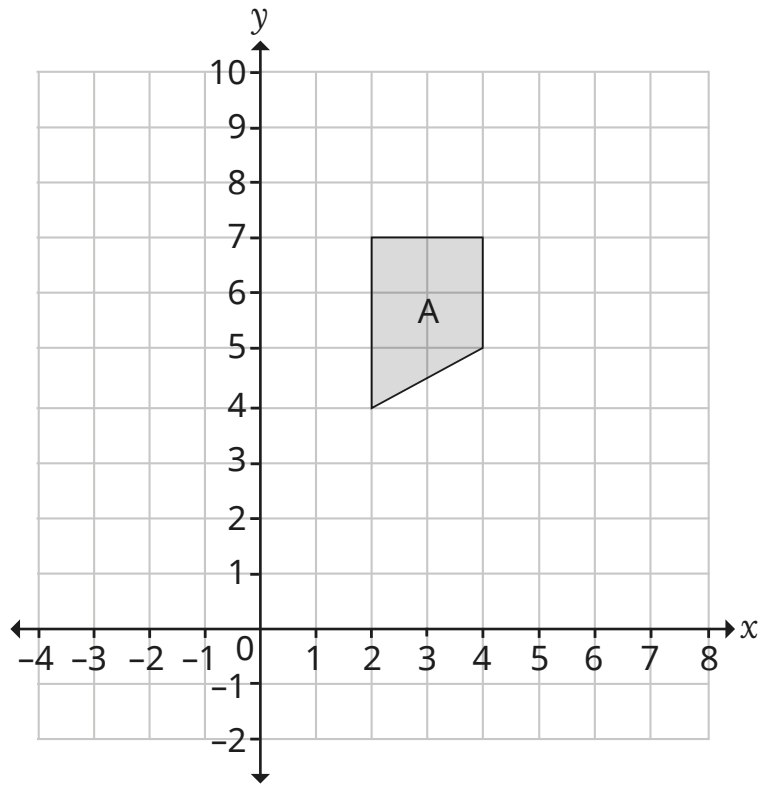
8 a)



Enlarge triangle A by scale factor 2 using (3, -4) as the centre of enlargement.

(3 marks)

b)



Translate trapezium A by the vector $\begin{pmatrix} 4 \\ -3 \end{pmatrix}$.

(2 marks)

9 $x : y = 5 : 2$

$x + y = 175$

Work out the value of $x - y$.

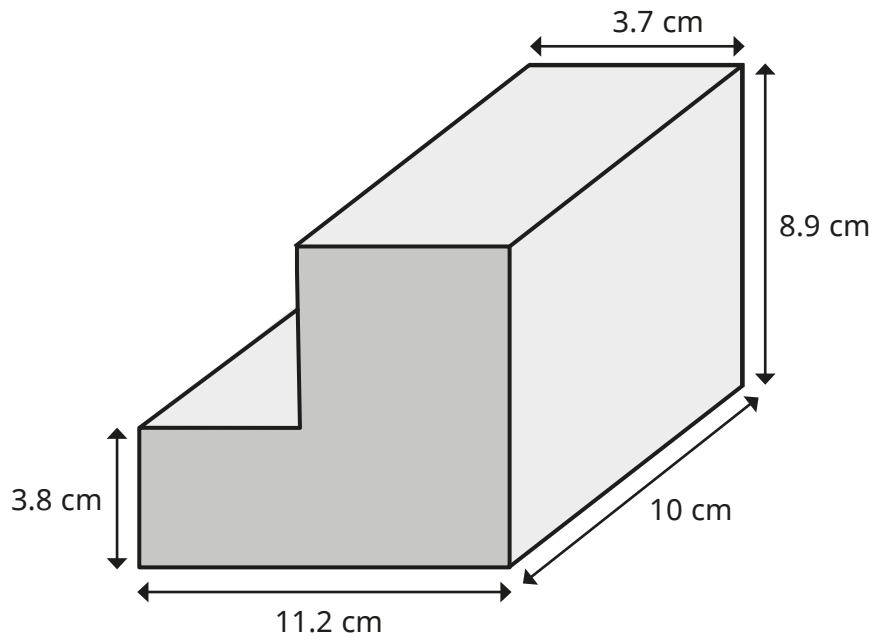
(3 marks)

10 The length (l) of a piece of wood is 294 cm when truncated to the nearest centimetre.
Complete the error interval for the length of the piece of wood.

_____ cm $\leq l <$ _____ cm

(2 marks)

11 Calculate the volume of the prism.

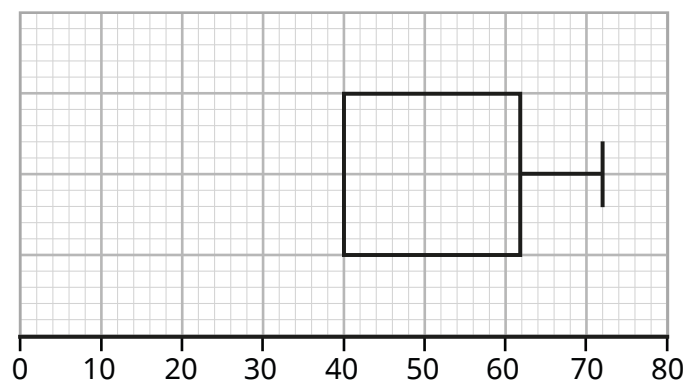


(3 marks)

12 Mr Jones recorded the test scores of his class.

The incomplete table and boxplot give information about the boys' results.

	Boys
Lowest score	28
Lower quartile	
Median score	56
Upper quartile	62
Greatest score	



a) Use the information in the table to complete the boxplot.

Use the information in the boxplot to complete the table.

(3 marks)

The table gives information about the girls' results.

	Girls
Median score	58
Inter-quartile range	32

b) Make two comparisons between the test scores of the boys and the girls.

1

2

(2 marks)

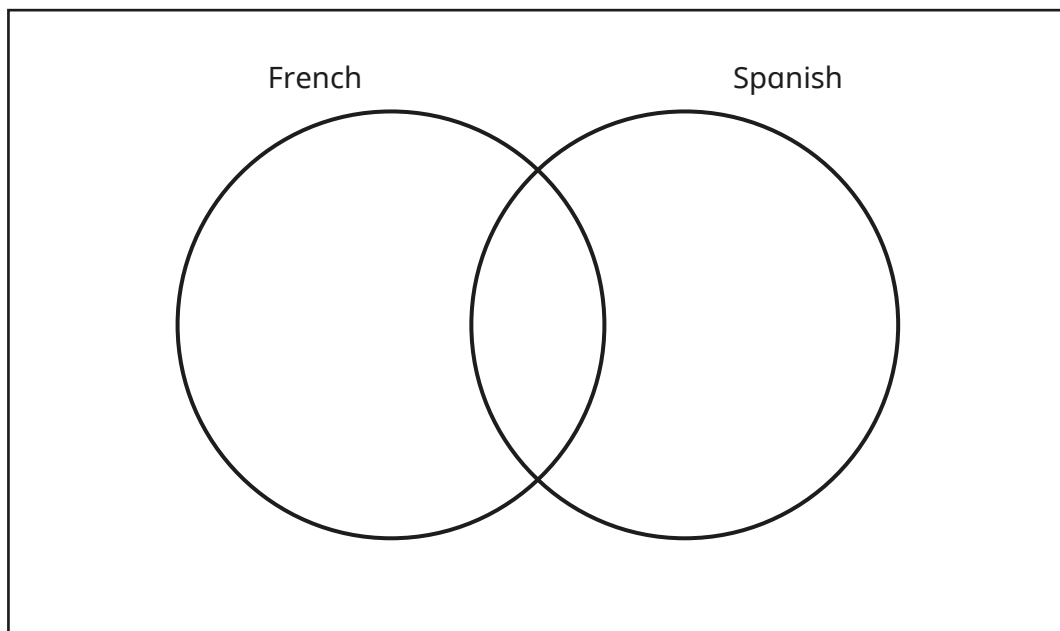
13 A group of 120 people were asked whether they spoke French or Spanish.

47 of the people spoke Spanish.

23 of the people spoke both French and Spanish.

28 of the people spoke neither.

a) Complete the Venn diagram.



(3 marks)

b) A person who speaks French is selected at random.

Find the probability that this person also speaks Spanish.

(2 marks)

14 Mr Xu wants to tile his kitchen floor.

The area he wants to tile is 4.5 m^2

He has 20 square tiles, each with a side length of 50 cm.

Does Mr Xu have enough tiles to cover the floor?

Show working to support your answer.

(3 marks)

15 Find the pressure exerted by a force of 5000 N on an area of 12.5 m^2

Give your answer in N/m^2

(2 marks)

16 Point A has coordinates $(3, -5)$.

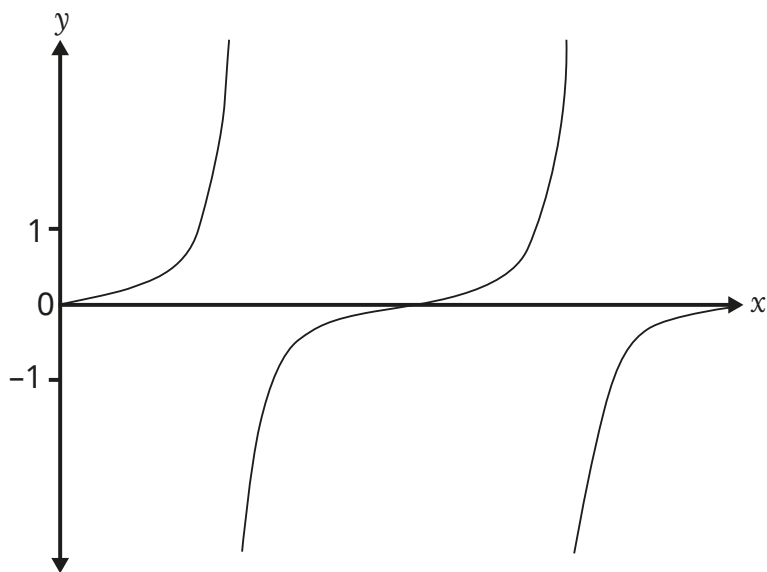
Point B has coordinates $(7, -13)$.

Find an equation of the straight line that is parallel to AB and passes through $(5, 10)$.

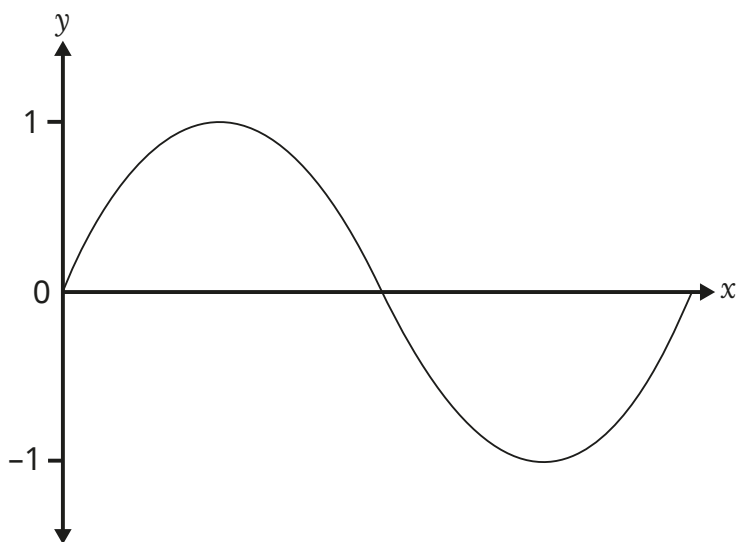
(4 marks)

17 Match each graph to its equation.

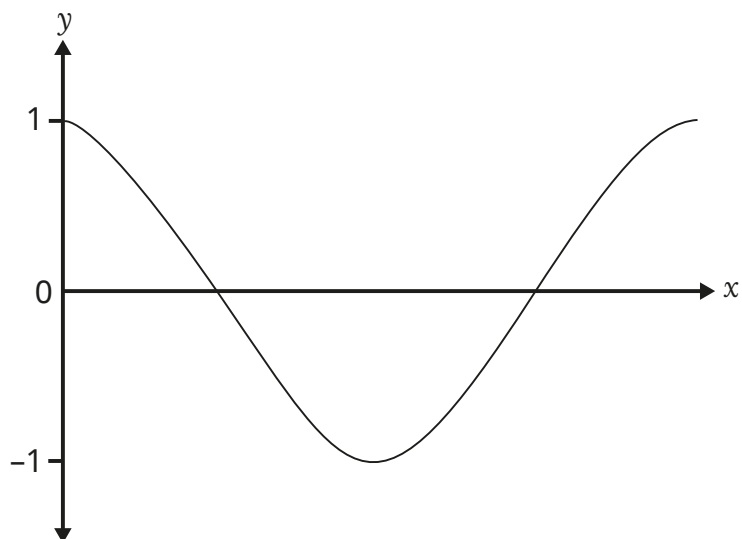
$y = \sin x$



$y = \cos x$

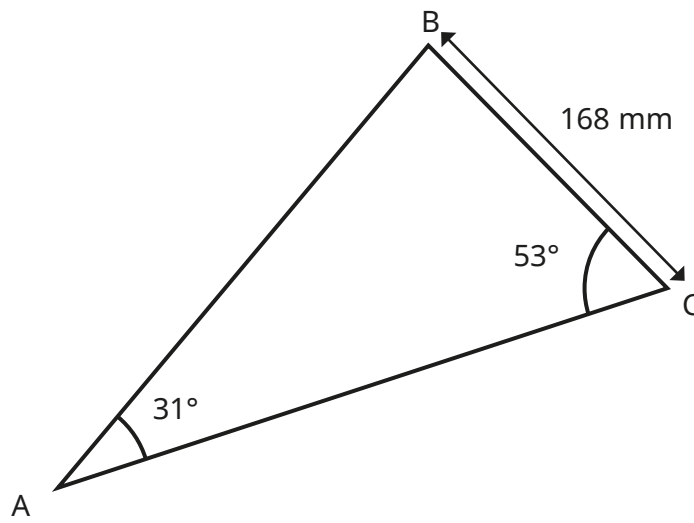


$y = \tan x$



(2 marks)

18 Calculate the length of AC.



*diagram not
drawn accurately*

(3 marks)

19 Eva wants to estimate the number of rabbits on a farm.

On Monday, she catches 50 rabbits.

These rabbits are tagged and then released.

On Tuesday, she catches 100 rabbits.

12 of these rabbits have tags on them.

Estimate the number of rabbits on the farm.

(3 marks)

20 Solve the inequality $x^2 + 9x - 10 > 0$

(3 marks)

21 The functions $f(x)$ and $g(x)$ are given by

$$f(x) = 4x + 5$$

$$g(x) = 2 - 7x$$

a) Calculate the value of $fg(6)$.

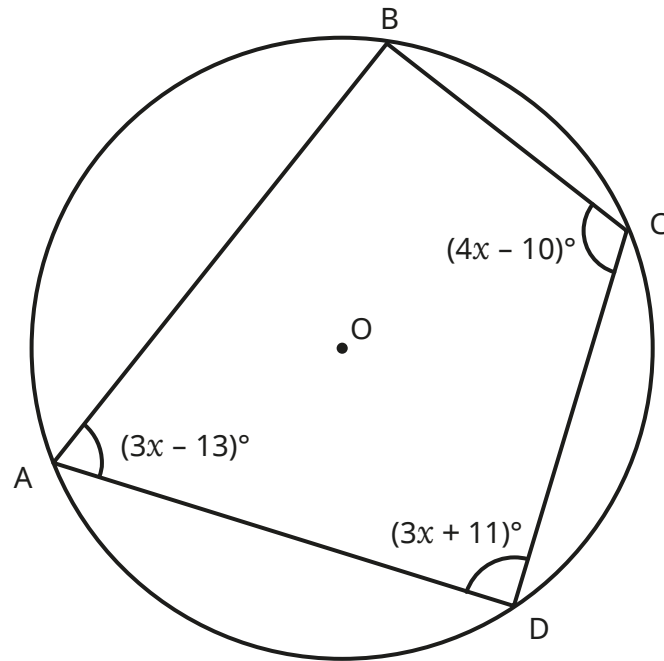
(3 marks)

b) Work out an expression for $f^{-1}(x)$.

(2 marks)

22 Here is a circle, centre O.

A, B, C and D are points on the circumference of the circle.



a) Show that $7x - 23 = 180$

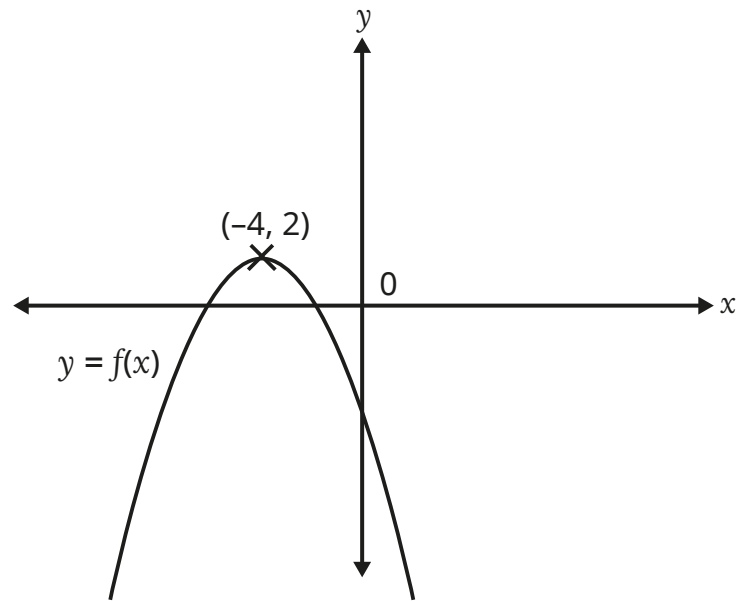
Give a reason to support your working.

(2 marks)

b) Calculate the size of obtuse angle AOB.

(4 marks)

23 This is a sketch of the curve with equation $y = f(x)$.



The vertex of the curve is at $(-4, 2)$.

Write down the vertex of the curve with equation

a) $y = 2f(x)$

_____ (1 mark)

b) $y = f(x) - 5$

_____ (1 mark)

c) $y = f(x + 1)$

_____ (1 mark)

24 a is directly proportional to the square of b .
 c is inversely proportional to the square root of a .

When $b = 3$, $a = 36$

When $a = 4$, $c = 9$

Find the value of c when $b = 12$

(5 marks)