1st Class Maths

Video Solutions

SCAN ME

PRACTICE PAPER FOR

Edexcel Paper 3H (June 2026)

---------- Disclaimer ----------

This paper has been created based on some of the common paper 3 topics from previous years and also careful analysis of what topics have already appeared in paper 1/2. The paper should be excellent at helping students revise for exams, however it should not be relied upon as the basis for revision. The topics from this paper may well appear in the real exams, however there is absolutely no guarantee of this. Some topics may appear, some may not. Despite what you might see on social media it is not possible to "predict" the paper. This is usually what people say when they are selling you something…

The best way to prepare for the exams is to **revise all topics**.

You can find a link to this paper and more completely free resources at www.1stclassmaths.com

Answer ALL questions

Write your answers in the spaces provided

You must write down all the stages in your working.

1 (a) Simplify $(m^6)^5$

.....

(1)

(b) Simplify $\dfrac{20a^9b^{20}}{4a^3b^{-4}}$

.....

(2)

(c) Expand and simplify fully $7(x + 6) - 2(x + 11)$

.....

(2)

(Total for Question 1 is 5 marks)

2 The table shows information about the temperatures, T °C, of 31 days during May.

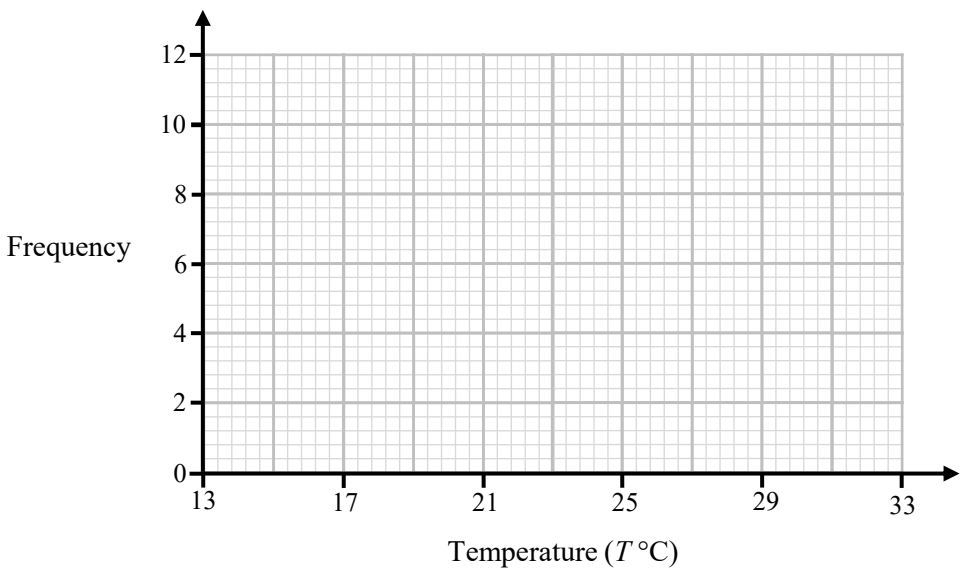
Temperature (T °C)	Frequency
$13 < T \leq 17$	2
$17 < T \leq 21$	7
$21 < T \leq 25$	6
$25 < T \leq 29$	10
$29 < T \leq 33$	6

(a) Find the class interval that contains the median.

.....

(1)

(b) On the grid, draw a frequency polygon for the information in the table.



(2)

(Total for Question 2 is 3 marks)

Turn over ▶

3 (a) Use your calculator to work out $\dfrac{2.3^5}{\sqrt{10-2\pi}}$

Write down all the figures on your calculator display.

.....

(2)

(b) Round your answer from part (a) to 3 significant figures.

.....

(1)

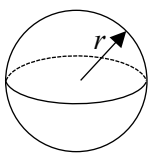
(Total for Question 3 is 3 marks)

4 A sphere with a radius of 6 cm has a mass of 2.5 kg.

The sphere is made from a metal with density x g/cm^3

Work out the value of x to 3 decimal places.

Volume of a Sphere $= \frac{4}{3}\pi r^3$



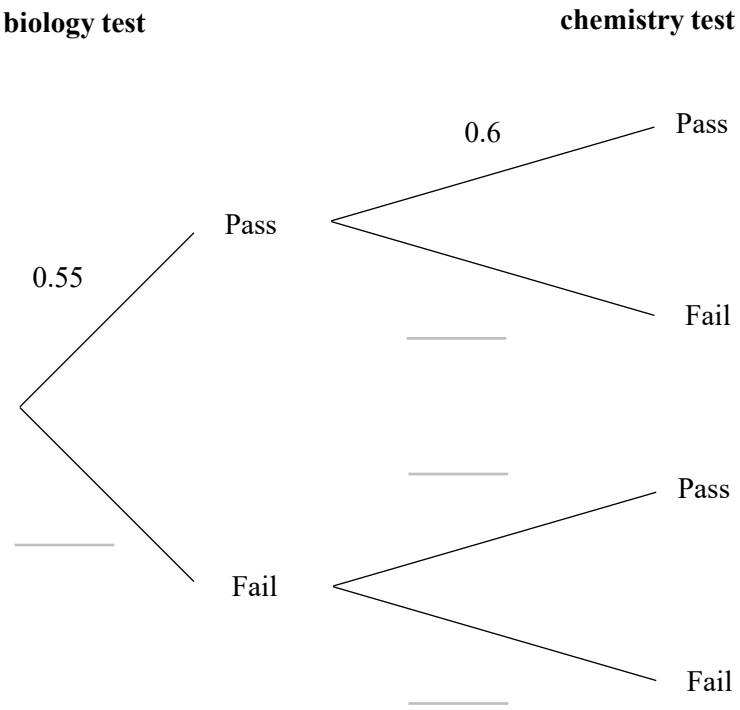
$x =$ .....

(Total for Question 4 is 4 marks)

5 Kirsty has a biology test and a chemistry test.

The probability that she passes her biology test is 0.55
The probability that she passes her chemistry test is 0.6

(a) Complete the probability tree diagram.



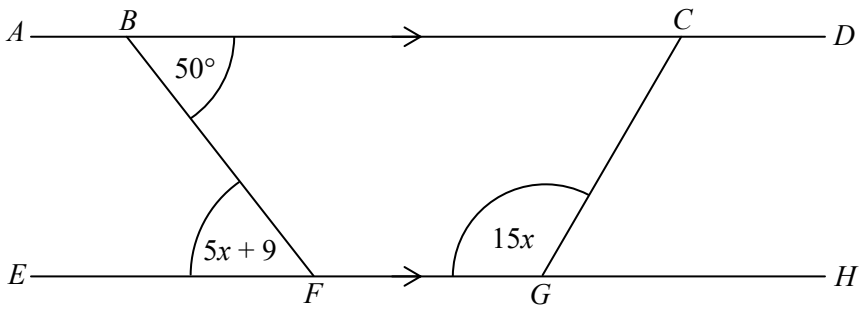
(2)

(b) Show that the probability that Kirsty passes **only** one of the tests is less than 50%

(2)

(Total for Question 5 is 4 marks)

6 Straight lines *ABCD* and *EFGH* are parallel.



Work out the size of angle *BCG*.

.....°

(Total for Question 6 is 5 marks)

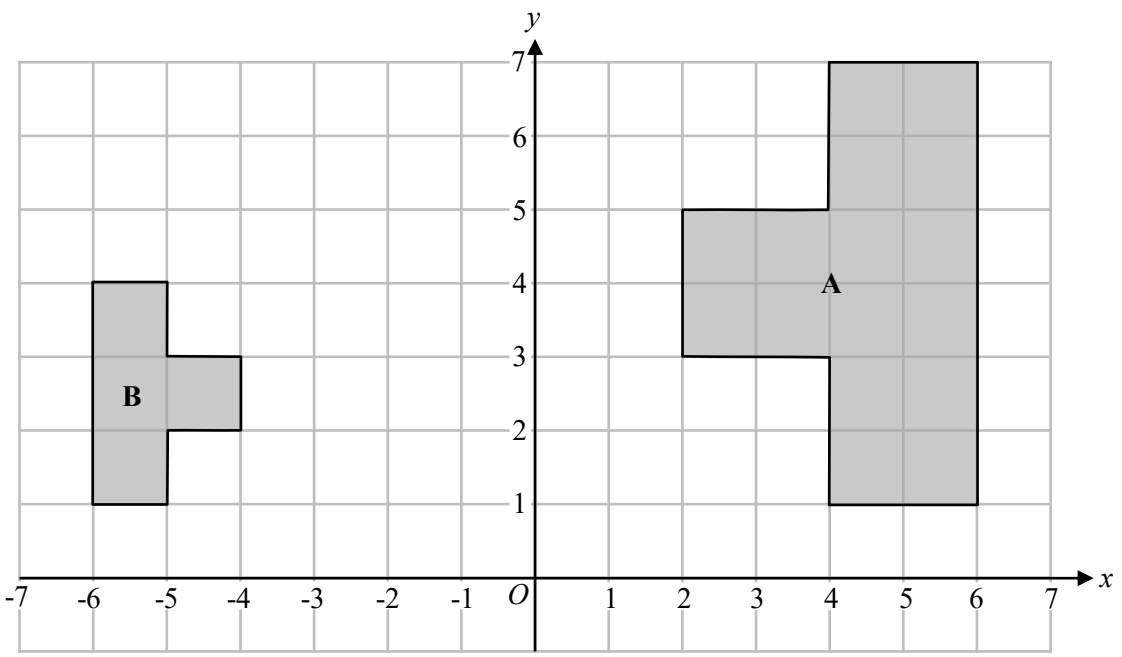
7 Tom runs two laps of a 400 metre athletics track.
He runs the first lap in 73.6 seconds.
He runs the second lap with a speed that is 15% faster than his first lap.

Work out how long it takes Tom to run the second lap.

..... seconds

(Total for Question 7 is 4 marks)

8



Describe fully the single transformation that maps shape **A** onto shape **B**.

.....

.....

(Total for Question 8 is 2 marks)

9 A company produces batteries.

The table below gives information about the lifespans, T hours, of a sample of 80 batteries that the company produced.

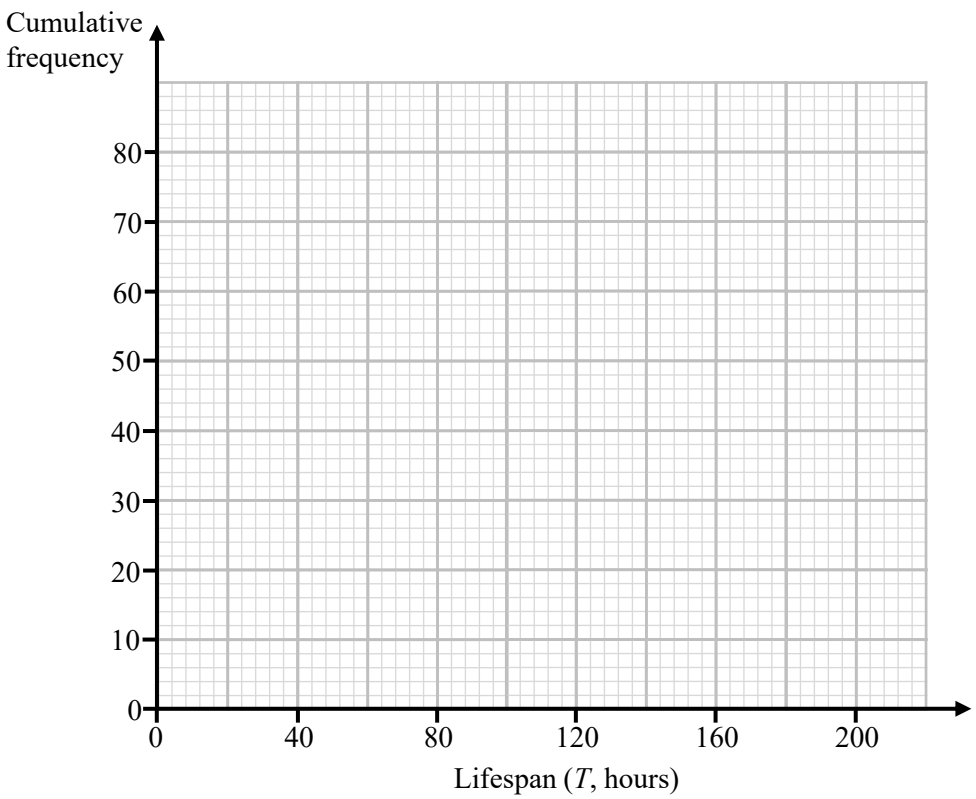
Lifespan (T, hours)	Frequency
$0 \leq T < 40$	6
$40 \leq T < 80$	14
$80 \leq T < 120$	29
$120 \leq T < 160$	23
$160 \leq T < 200$	8

Lifespan (T, hours)	Cumulative Frequency
$0 \leq T < 40$	
$0 \leq T < 80$	
$0 \leq T < 120$	
$0 \leq T < 160$	
$0 \leq T < 200$	

(a) Complete the cumulative frequency table above.

(1)

(b) On the grid, draw the cumulative frequency graph for this information.



(2)

9 (c) Use your graph to find an estimate for the median lifespan of the sample of 80 batteries.

..... hours

(1)

The company produces a total of 1.2×10^7 batteries per year.

(d) Use your graph to estimate the number of batteries produced by the company in a year that have a duration of at least 180 hours.

..... batteries

(3)

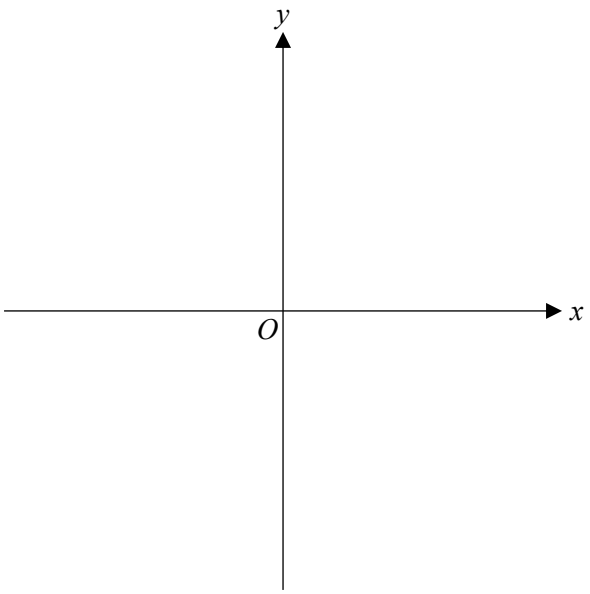
(Total for Question 9 is 7 marks)

10 Convert 9.5 m^2 into cm^2

..... cm^2

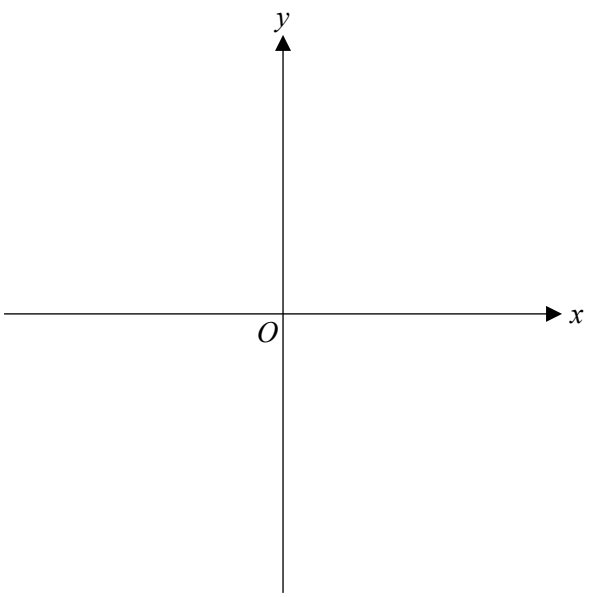
(Total for Question 10 is 1 mark)

11 (a) On the grid, sketch the curve with equation $y = 3^x$
Give the coordinates of any points of intersection with the axes.



(2)

(b) On the grid, sketch the curve with equation $x^2 + y^2 = 4$
Give the coordinates of any points of intersection with the axes.



(2)

(Total for Question 11 is 4 marks)

12 $\mathbf{L_1}$ and $\mathbf{L_2}$ are perpendicular lines that intersect at the point (20, 14)

The equation of $\mathbf{L_1}$ is $y = kx - 36$, where k is a constant.

Find an equation for $\mathbf{L_2}$

.....

(Total for Question 12 is 4 marks)

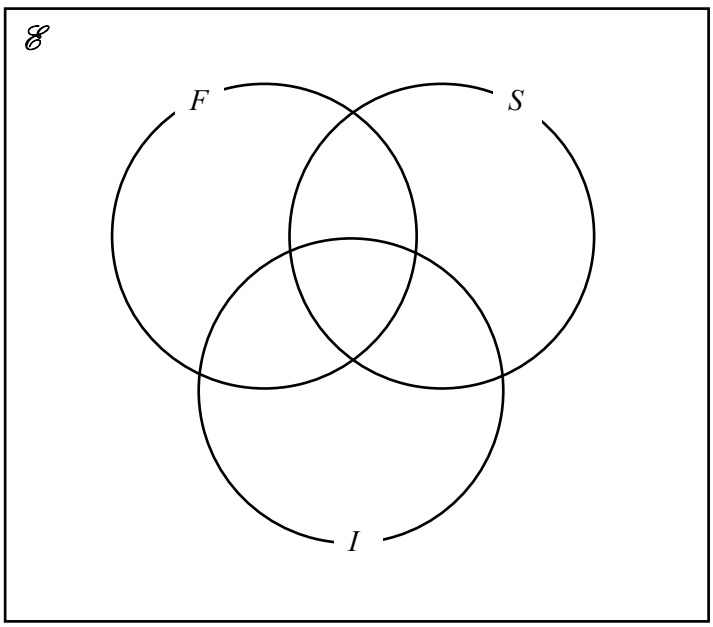
Turn over ▶

13 A travel company surveyed 140 customers about the countries they have visited.

All customers were asked if they had visited France (F), Spain (S) or Italy (I)

24 customers have visited all three countries
19 customers have visited France and Spain but not Italy
30 customers have visited France and Italy
67 customers have visited France
30 customers have visited only Spain
11 customers have visited only Italy
15 customers have visited none of these countries

(a) Complete the Venn diagram for this information.



(4)

One customer is chosen at random.

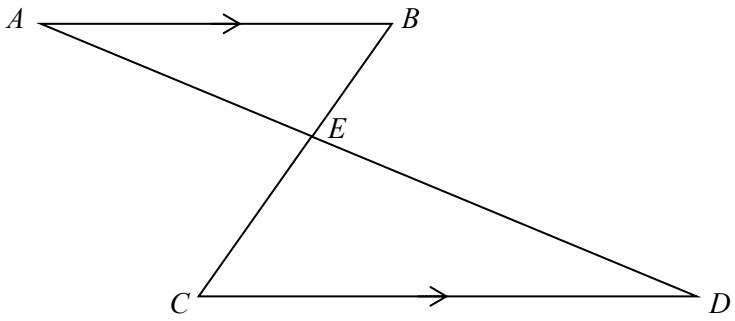
(b) Given that this customer has visited France, find the probability that this customer has also visited Spain.

.....

(2)

(Total for Question 13 is 6 marks)

14



AB and *CD* are parallel lines.
AED and *BEC* are straight lines.
AB = 12.8 cm
AE = 10.8 cm
AD = 24.3 cm
Angle *CDE* = 23°

Work out the area of triangle *CDE*.
Give your answer to 1 decimal place.

..... cm^2

(Total for Question 14 is 4 marks)

Turn over ▶

15 (a) Show that the equation $x^3 - 2x - 8 = 0$ has a solution between $x = 2$ and $x = 3$

(1)

(b) Show that the equation $x^3 - 2x - 8 = 0$ can be rearranged to give $x = \sqrt[3]{2x + 8}$

(1)

(c) Starting with $x_0 = 2$

use the iteration formula $x_{n+1} = \sqrt[3]{2x_n + 8}$ three times to find an estimate for a solution of $x^3 - 2x - 8 = 0$

Give your answer correct to 4 decimal places.

.....

(3)

(Total for Question 15 is 5 marks)

16 y is inversely proportional to x^2
When $y = 1.2$, $x = 5$

x is directly proportional to $\sqrt{z}$
When $x = 0.75$, $z = 9$

Find a formula for y in terms of z.
Give your answer in its simplest form.

.....

(Total for Question 16 is 5 marks)

Turn over ▶

17 $y = \dfrac{a}{x + 20}$

$y = 4.2$ correct to 1 decimal place.
$a = 200$ correct to 1 significant figure.

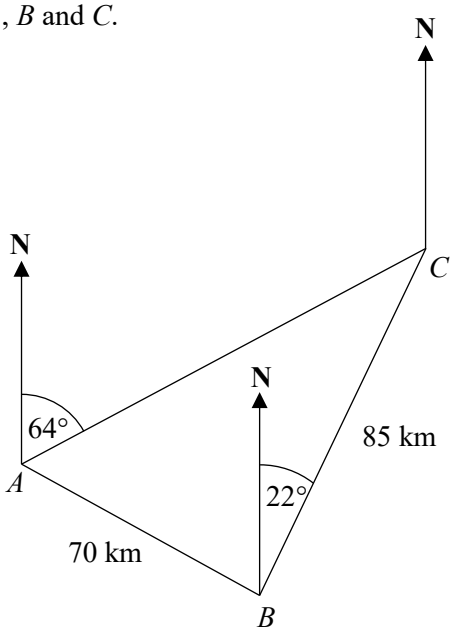
Work out the upper bound for x.
Give your answer to 4 significant figures.

You must show all your working.

.....

(Total for Question 17 is 4 marks)

18 The diagram shows the locations of ships A, B and C.



Ship B is 70 km from ship A.

Ship C is

on a bearing of 064° from ship A
and on a bearing of 022° from ship B
and 85 km from ship B.

Work out the bearing of ship B from ship A.
Give your answer to 1 decimal place.

°

(Total for Question 18 is 5 marks)

19 **C** is a circle with equation $x^2 + y^2 = 32.4$

Point P has coordinates (a, b) where a and b are positive.

The equation of the tangent to **C** at the point P is parallel to the line with equation $y = 9 - 3x$

Find the values of a and b.

$a =$ .....

$b =$ .....

(Total for Question 19 is 5 marks)

TOTAL FOR PAPER IS 80 MARKS