1st Class Maths

PREDICTED PAPER

Video Solutions

Centre Number | | | | | | Candidate Number | | | | |

Surname _____

Forename(s) _____

Signature _____

GCSE MATHEMATICS

F

Foundation Tier Paper 1 Non-Calculator

Friday 20 May 2022 Morning Time allowed: 1 hour 30 minutes

Student Self Reflection

Topics I need to ***revise***

Topics I need to ***learn***

Silly Mistakes?

Target mark for next time

For teacher use	
Pages	Mark
2-3	
4-5	
6-7	
8-9	
10-11	
12-13	
14-15	
16-17	
18-19	
20-21	
TOTAL	

Answer **all** questions in the spaces provided.

Do not write outside the box

1 Work out 12 – (-3)

Circle your answer.

[1 mark]

-15 -9 9 15

2 Circle the correct statement

[1 mark]

$\frac{1}{3} > \frac{1}{4}$ $\frac{1}{3} = \frac{1}{4}$ $\frac{1}{3} \leq \frac{1}{4}$ $\frac{1}{3} < \frac{1}{4}$

3 On a circle, which of the following is a straight line.

Circle your answer.

[1 mark]

Arc Circumference Chord Sector

Do not write outside the box

4 How many metres are equal to 2.5 kilometres?

Circle your answer.

[1 mark]

25 250 2500 25000

5 (a) Work out 34 × 29

[3 marks]

Answer _____

5 (b) Work out 15.9 + 4.23

[2 marks]

Answer _____

9

Do not write outside the box

6 Damian is taking part in sports day.
As the captain he must take part in three events, one throwing, one running and one jumping.

The list of possible events that he could choose are in the table below.

Throwing	Running	Jumping
Javelin (J) Discus (D)	Sprint (S) Long Distance (L)	High Jump (H) Triple Jump (T)

6 (a) List all the possible combinations of events that Damian could choose.

[2 marks]

6 (b) What **fraction** of the possible combinations have discus **and** high jump?

[1 mark]

Answer _____

Do not write outside the box

7 $5 + 8 + 2 + 1 = 16$

Make the following calculations correct.

Use only the symbols $+$, $-$, $\times$, $\div$ and $( )$

[3 marks]

5 8 2 1 = 42

5 8 2 1 = 0

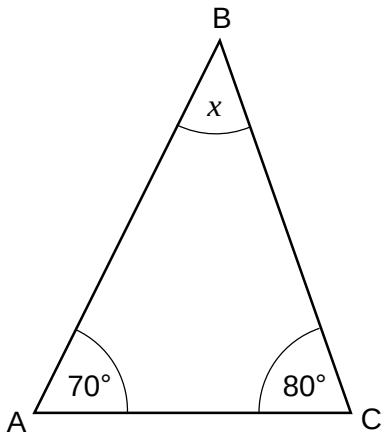
5 8 2 1 = 39

Turn over for next question

6

Do not write outside the box

8 Triangle ABC is shown below.



Not drawn accurately

8 (a) Work out the size of angle x

[2 marks]

$x =$ _____

8 (b) What type of triangle is ABC?

[1 mark]

Circle your answer.

Right angled Isosceles Equilateral Scalene

Do not write outside the box

9 Emma records the temperature on 5 different days in January.

Here results are shown below.

Day	Temperature (°C)
Monday	2
Tuesday	1
Wednesday	11
Thursday	3
Friday	-2

9 (a) Work out the mean temperature.

[2 marks]

Answer _____

9 (b) Emma identifies one of the values as being an outlier.

[1 mark]

Write down the value of the outlier.

Answer _____

6

Do not write outside the box

10 The term-to-term rule of a sequence is

Multiply by 3 then subtract 10

The first term of the sequence is 4

Work out the next three terms of the sequence.

[3 marks]

Answer _____ , _____ , _____

11 Nish is doing the calculation shown below

$$\frac{3.8 \times 2304}{19}$$

Use approximations to 1 significant figure to find an estimate for his calculation.

[3 marks]

Answer _____

Do not write outside the box

12 Work out 35% of 240

[3 marks]

Answer _____

13 In a bag the ratio of green counters to red counters is 3 : 7

What **fraction** of the counters are green?

[1 mark]

Answer _____

10

Do not write outside the box

14 The table below shows information about which sport 300 students picked for P.E.

	Football	Hockey
Year 7	85	
Year 8		50
	Total = 180	Total = 120

14 (a) Complete the table.

[2 marks]

14 (b) What percentage of the 300 students picked hockey?

[2 marks]

Answer _____

14 (c) One of the students is chosen at random.

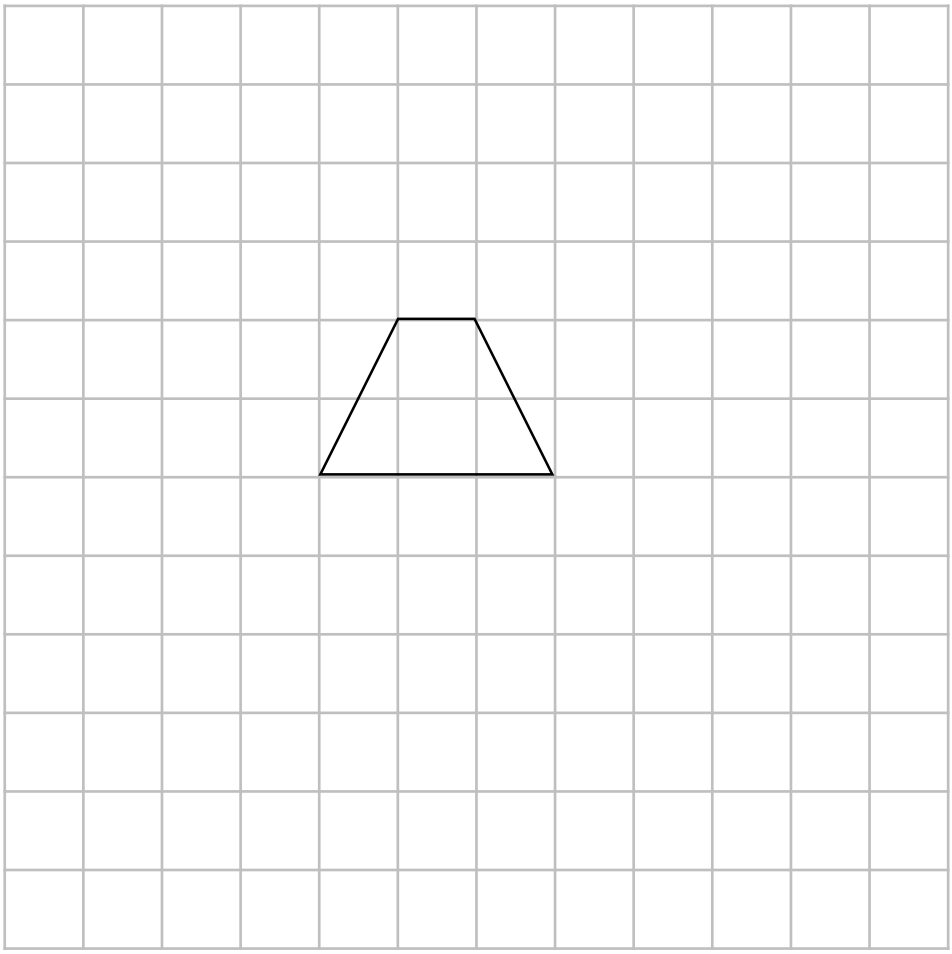
What is the probability that they are a year 7 who chose football?

[1 mark]

Answer _____

Do not write outside the box

15 A trapezium is drawn on the grid below



The trapezium is translated with the vector $\begin{pmatrix} -3 \\ 4 \end{pmatrix}$

Draw the translated trapezium.

[2 marks]

7

Do not write outside the box

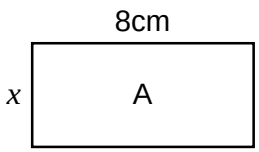
16 A solid has a mass of 300g and a volume of $40cm^3$

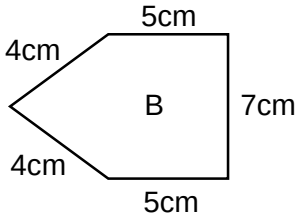
Calculate the density of the solid.

Include the units of your answer. **[3 marks]**

Answer _____

17 Shapes A and B both have the same perimeter.





Not drawn accurately

Calculate the value of x

[3 marks]

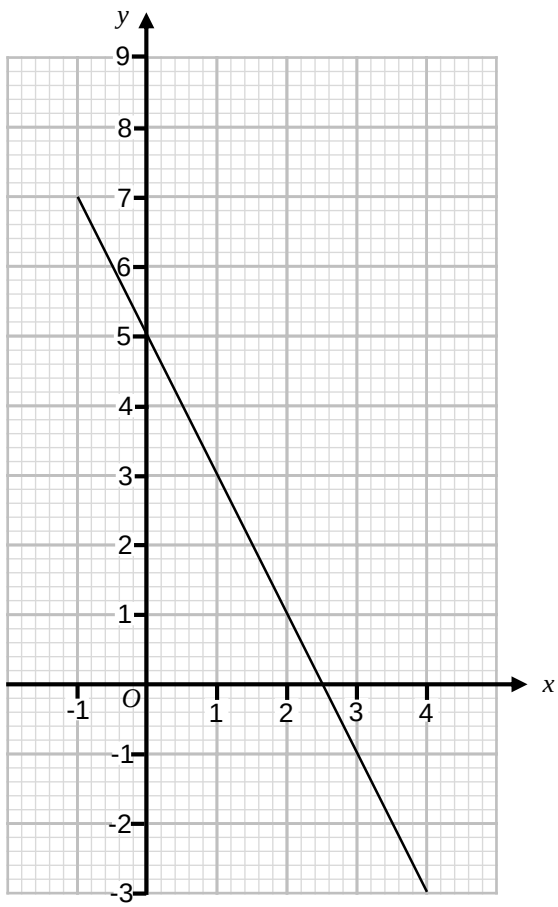
x = _____

Do not write outside the box

18 The graph of $y = 5 - 2x$ for x values from -1 to 4 is shown on the grid.

18 (a) On the grid, draw the graph of $y = 2x + 1$ for x values from -1 to 4

[3 marks]



18 (b) Use your graph to solve $2x + 1 = 5 - 2x$

[1 mark]

$x =$ _____

10

Do not write outside the box

19 Megan is paying her phone bill.

Information about the charges is shown below.

£10 per month
+
10p per text message
Calls at 2p per minute

The table below shows Megan's usage for the last three months.

	February	March	April
Text messages	6	10	8
Call minutes	40	35	15

Calculate the cost of Megan's **total** bill for the **three** months.

[4 marks]

Answer _____

Do not write outside the box

20 (a) An electrician charges a call out fee of £20 plus £12 per hour worked.

Write a formula for the total cost (C) of an electrics job that lasts for (h) hours.

[2 marks]

Answer _____

20 (b) A plumber charges twice the call out fee but half the hourly rate of the electrician.

Write a formula for the total cost (C) of a **plumbing** job that lasts for (h) hours.

[1 mark]

Answer _____

7

Do not write outside the box

21 (a) Work out $\left(\frac{2}{3}\right)^2 + \frac{1}{4}$

[3 marks]

Answer _____

21 (b) Write $2^{20} \div (2^3)^4$ as a single power of 2.

[2 marks]

Answer _____

21 (c) Write 0.0042 in standard form.

[1 mark]

Answer _____

21 (d) Work out $(4 \times 10^3) \times (3 \times 10^5)$ giving your answer in standard form.

[2 marks]

Answer _____

Do not write outside the box

22 Solve $\frac{x}{4} + 9 = 3$ **[2 marks]**

$x =$ _____

23 The cost of a calculator is £3.60

The cost of a pen is 80p

Write the cost of a calculator to the cost of a pen. **[2 marks]**

Give your answer in simplest form.

Answer _____ : _____

12

Do not write outside the box

24 ABCDEF is a regular hexagon.

Using only ruler and compasses, show the region inside the hexagon that is

less than 5.5 cm from E

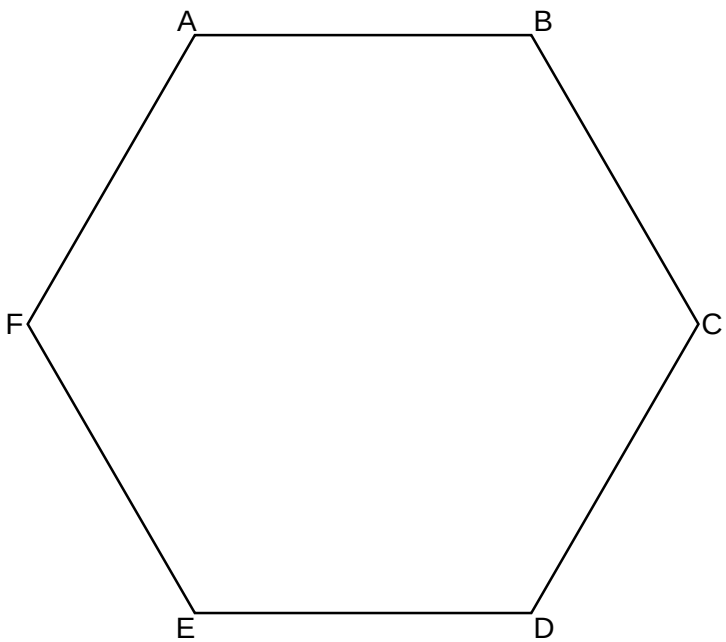
and

closer to point C than point D

Label the region R.

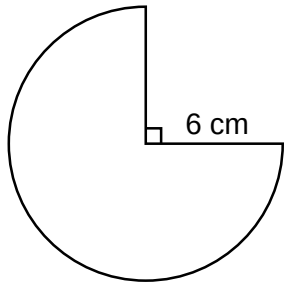
Show all your construction lines.

[3 marks]



Do not write outside the box

25 The diagram shows a sector of a circle of radius 6cm.



Not drawn accurately

Calculate the area of the sector.

Give your answer in terms of π. **[3 marks]**

Answer _____

6

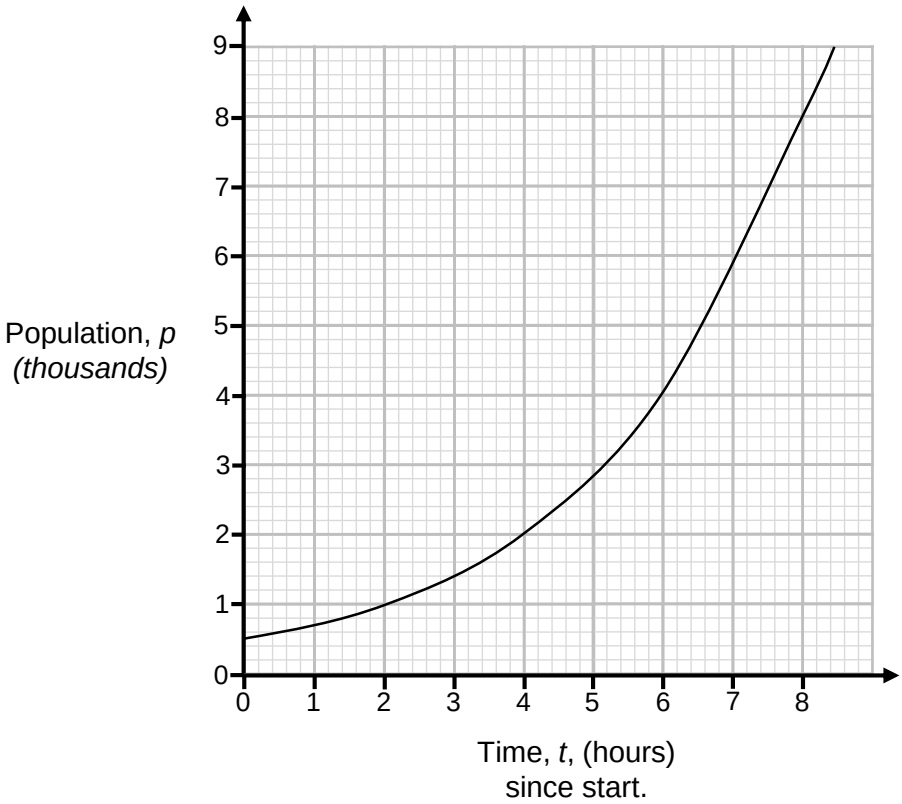
Turn over ►

Do not write outside the box

26 The population, p, of bacteria in a sample is recorded at different times.

t represents the number of hours since the timing started.

At the start the population was 500.



26 (a) Use your graph to calculate how many bacteria were in the sample after 5 hours. **[2 marks]**

Answer _____

26 (b) What type of graph is shown above. **[1 mark]**

Circle your answer.

Exponential Reciprocal Cubic Quadratic

Do not write outside the box

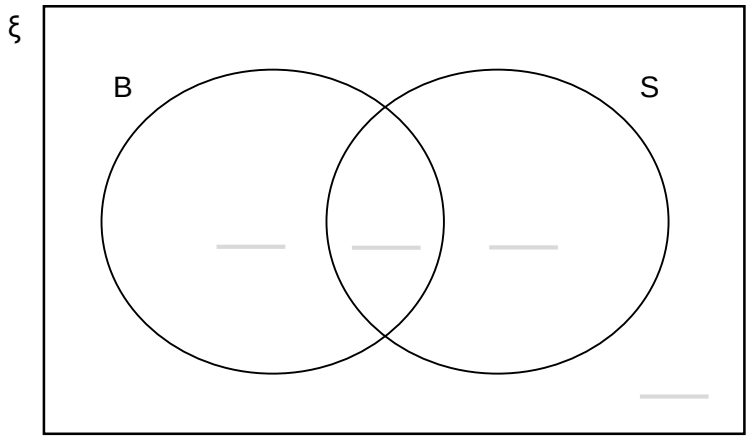
27 The Venn Diagram below show information about 200 students.

Each of the students was asked if they have any brothers or sisters.

$\frac{3}{8}$ of the students had brothers and sisters.

In total 105 students had sisters.

The number of students with brothers was 15 less than the number who had sisters.



Complete the Venn Diagram. **[4 marks]**

7

END OF QUESTIONS