1st Class Maths

PREDICTED PAPER

Video Solutions

Candidate Surname	Other names

Centre Number	Candidate Number

Thursday 3 November 2022

Morning (Time: 1 hours 30 minutes)

Mathematics

Paper 2 (Calculator)

Foundation Tier

You must have: Ruler graduated in centimetres and millimetres, protractor, pairs of compasses, pen, HB pencil, eraser. Tracing paper may be used.

Total Marks

Student Self Reflection

Topics/Question I need to ***revise***

Topics/Questions I need to ***learn***

Answer ALL questions

Write your answers in the spaces provided

You must write down all the stages in your working.

1 Work out $\frac{1}{3}$ of 60

.....

(Total for Question 1 is 1 mark)

2 Write the value of the number 6 in 43.62

.....

(Total for Question 2 is 1 mark)

3 (a) Write the following numbers in order of size.
Start with the smallest number.

8 –3 –4 4 –1

.....

(1)

(b) Here are four fractions.

$\frac{1}{2}$ $\frac{3}{4}$ $\frac{3}{5}$ $\frac{13}{20}$

Write these fractions in order of size.
Start with the smallest fraction.

.....

(2)

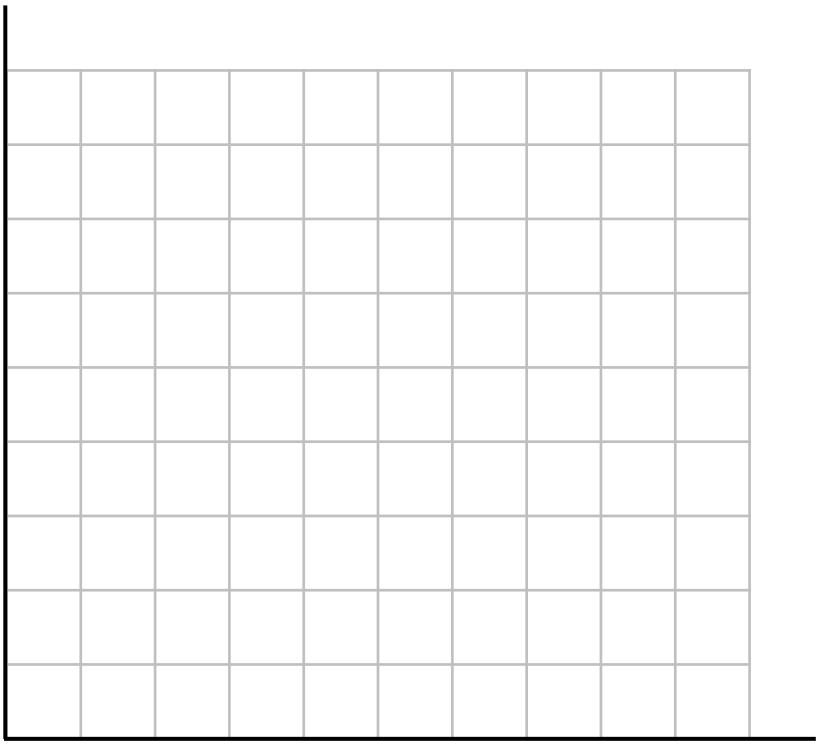
(Total for Question 3 is 3 marks)

4 29 students were asked what their favourite vegetable was.

The table shows the results.

Favourite Vegetable	Frequency
Corn	16
Peas	4
Carrots	6
Broccoli	3

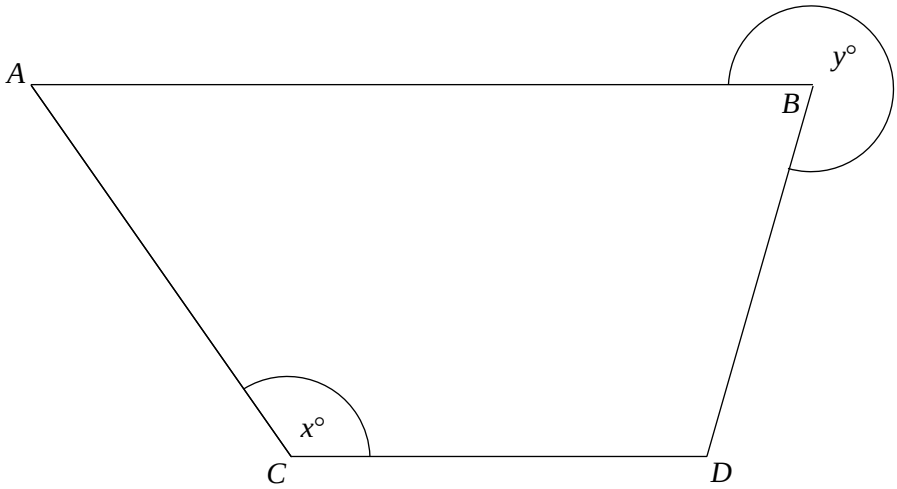
On the grid below, draw a bar chart for this information.



(Total for Question 4 is 3 marks)

Turn over ▶

5 *ABCD* is a trapezium



(a) Measure the length of the line *CD*.
Give your answer in cm.

..... cm

(1)

(b) Measure the size of the angle marked *x*.

°

.....

(1)

(c) Measure the size of the angle marked *y*.

°

.....

(2)

(Total for Question 5 is 4 marks)

6 Chrissy needs to wake up at 7:30 am to be on time for school.

She actually wakes up $1\frac{3}{4}$ hours before this.

Work out what time Chrissy wakes up.

.....

(Total for Question 6 is 2 marks)

7 Work out 27% of 1800 m
Give your answers in km.

..... km

(Total for Question 7 is 3 marks)

8 (a) Simplify $6a + 9b - a - 2b$

.....

(2)

(b) Solve $4x - 6 = 14$

$x =$ .....

(2)

(c) Expand $6(4 - x)$

.....

(1)

Mike has p marbles.
Will has 30 more marbles than Mike.

(d) Write an expression, in terms of p, for the number of marbles that Will has.

.....

(1)

(Total for Question 8 is 6 marks)

9 Information about the charges for Megan's phone bill are shown below.

£10 per month
+
12p per text message
Calls at 3p per minute

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

	August	September	October
Text messages	6	10	8
Call minutes	40	35	15

Work out the total cost of Megan's phone bill for the three months.

£ .....

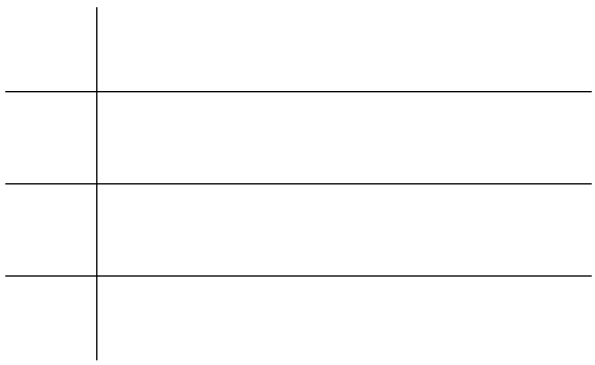
(Total for Question 9 is 4 marks)

10 The table below shows the number of goals scored by 15 teams during a football season.

26	30	32	32	19
41	30	28	28	20
35	39	38	44	33

(a) Show this information in a stem and leaf diagram.

(3)



(b) Work out the median number of goals scored by the 15 teams.

.....

(2)

(Total for Question 10 is 5 marks)

11 The mean age of 5 players from a quiz team is 40.

The ages of 4 of the players are shown below.

Aggie	Bart	Carl	Deirdre
34	44	48	42

The final player in the team is called Eve.

Work out Eve's age.

.....

(Total for Question 11 is 3 marks)

12 The students in year 9 are being put into teams for sports day.

The P.E. department decides to split year 9 into 5 teams, each with 48 students.

The headteacher decides instead that there should be 6 equally sized teams.

Work out how many students will be in each team if there are in fact 6 teams.

.....

(Total for Question 12 is 2 marks)

13 30% of the students attending homework club on Thursday night were male.

75% of the male students were completing maths homework.

Work out the fraction of all of the students that were males, completing maths homework.

.....

(Total for Question 13 is 3 marks)

14 (a) Find the reciprocal of 2.5
Give your answer as a decimal.

.....

(1)

(b) A number, n, is rounded to 1 decimal place.
The result is 8.4

Complete the error interval for n.

..... $\leq n <$ .....

(2)

(Total for Question 14 is 3 marks)

15 $M = 5t + b$

(a) Work out the value of M when $t = 6$ and $b = -4$

.....

(2)

(b) Work out the value of t when $M = 60$ and $b = 10$

.....

(2)

(Total for Question 15 is 4 marks)

16 Here are the first five terms of an arithmetic sequence.

7 20 33 46 59

(a) Find an expression, in terms of n, for the nth term of this sequence.

.....

(2)

(b) Work out the 50th term of the sequence.

.....

(2)

(Total for Question 16 is 4 marks)

17 Tiaba scored 52 marks in her maths test.

Her teacher said this was 65% of the marks.

Work out the maximum mark for the test.

.....

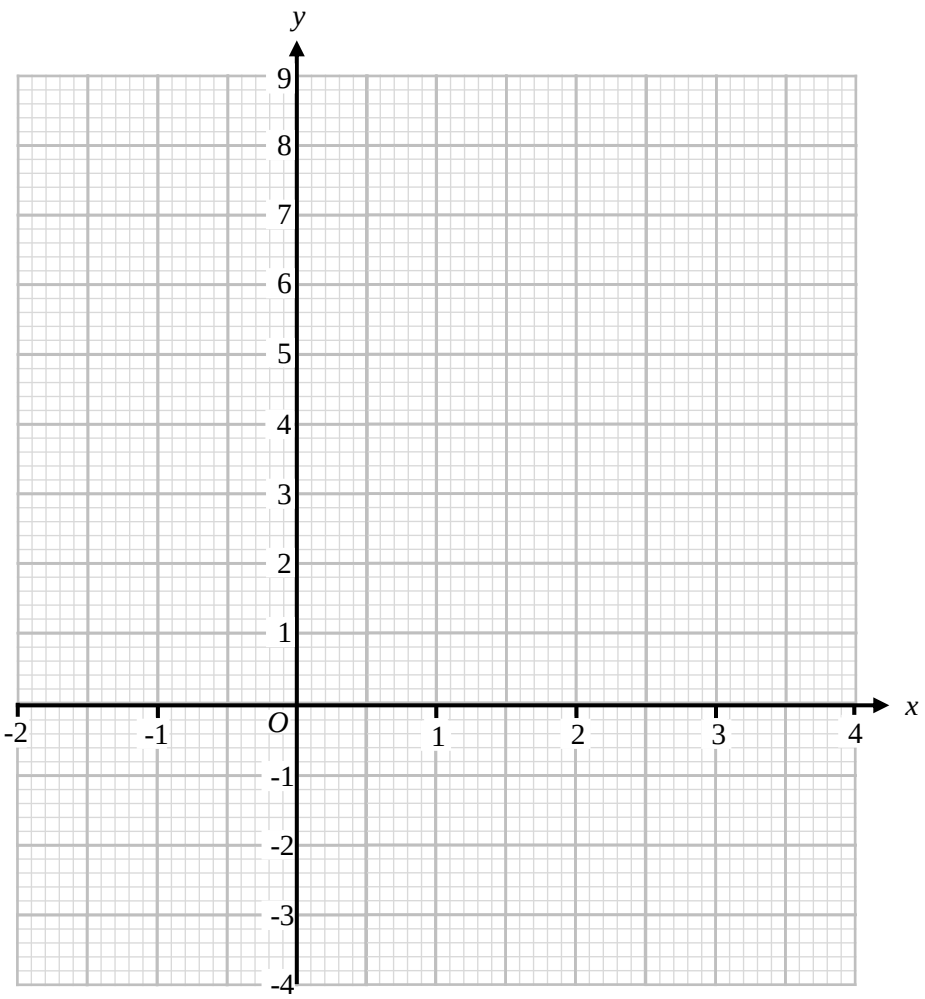
(Total for Question 17 is 2 marks)

18 (a) Complete the table of values for $y = x^2 - 2x - 1$

x	-2	-1	0	1	2	3	4
y		2			-1	2	

(2)

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



(2)

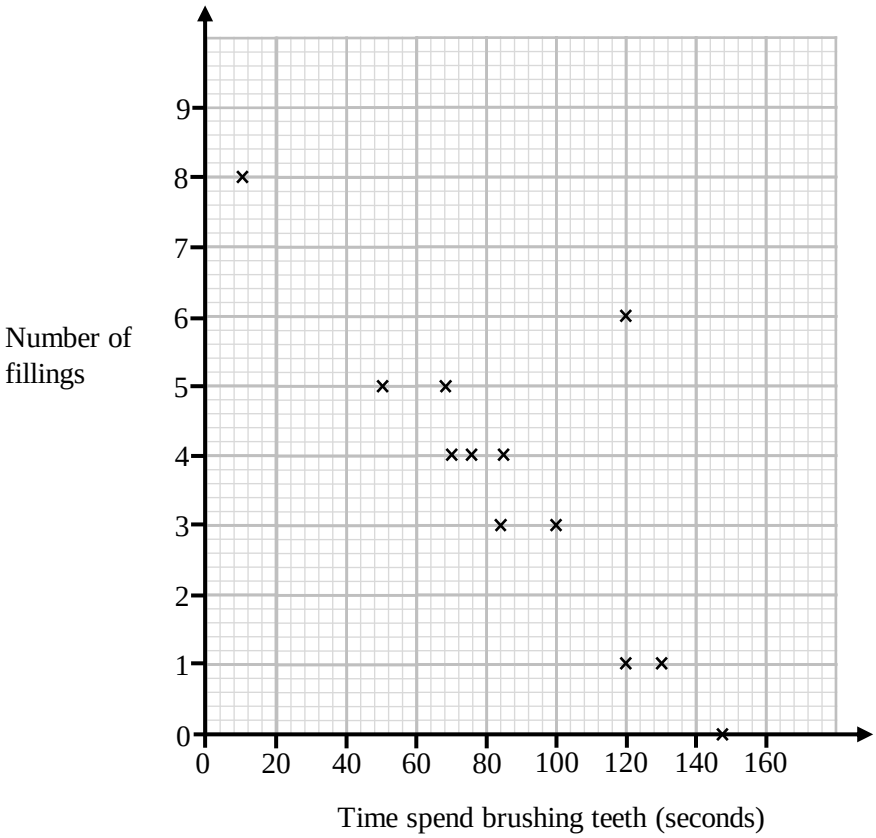
(c) Use the graph to estimate the solutions to $x^2 - 2x - 1 = 0$

.....

(2)

(Total for Question 18 is 6 marks)

19 The scatter graph shows time spent brushing teeth and the number of fillings for 12 patients who attend the same dentistry practice.



(a) One of the points plotted on the scatter graph is considered an outlier.
Write down the coordinates of this point.

(.....,.....)
(1)

(b) For all the other points write down the type of correlation.

.....
(1)

Another patient attending the practice has 2 fillings.

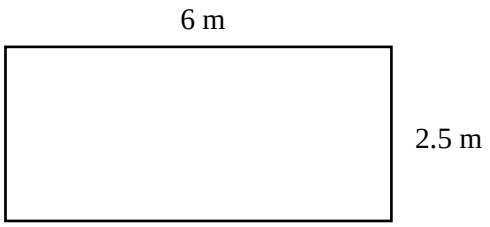
(c) Estimate the time that they spend brushing their teeth.

..... seconds
(2)

(Total for Question 19 is 4 marks)

20 A caretaker is painting a wall of a classroom.

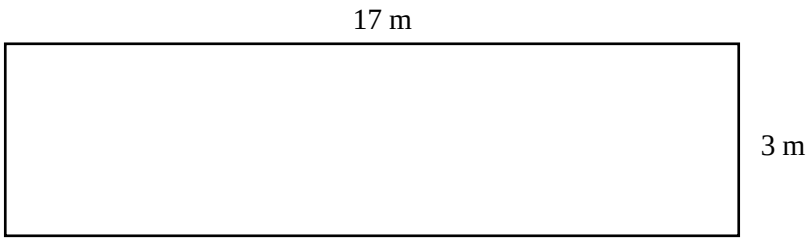
A diagram of the wall is shown below.



To paint this wall the caretaker uses exactly 2 tins of paint.

They decide to use the same type of paint to paint a wall in the corridor as well.

A diagram of the corridor wall is shown below.



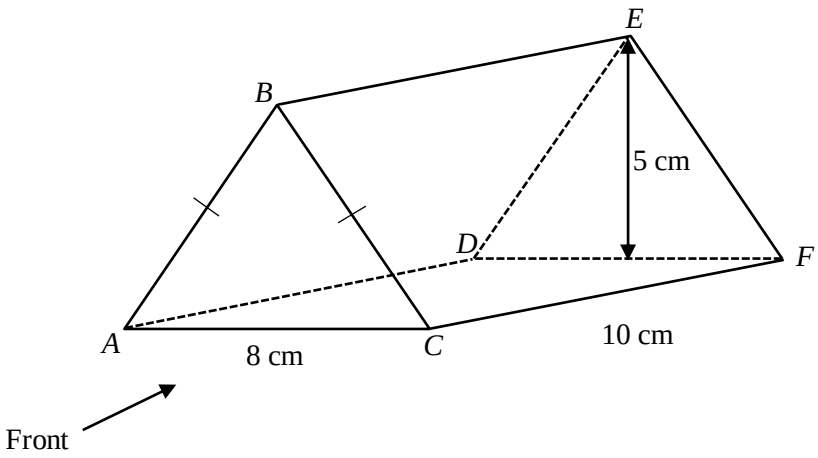
Each tin of paint costs £9.50

Work out how much the caretaker needs to spend on paint for the corridor wall.

£ .....

(Total for Question 20 is 4 marks)

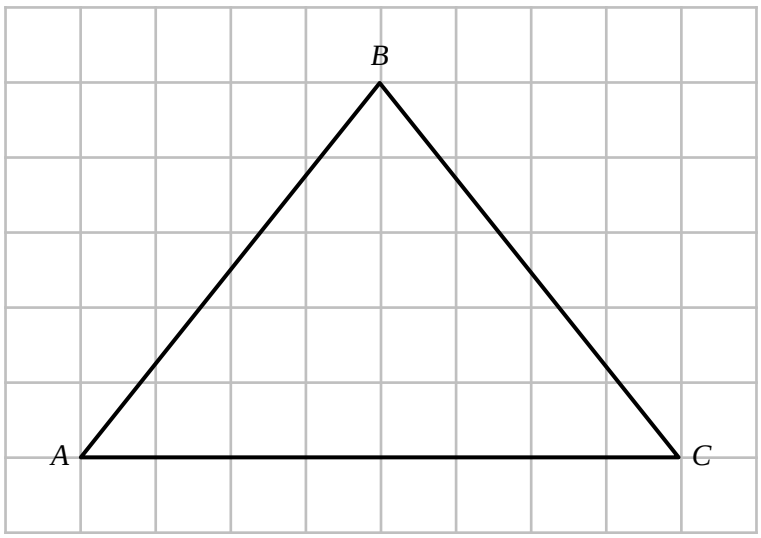
21 The diagram shows a triangular prism.



(a) On the centimetre grid below, draw the plan of the triangular prism.

(2)

The front elevation of the prism is drawn on the centimetre grid below



(b) Work out the size of angle BCA.
Give your answer to 1 decimal place.

.....°

(3)

(Total for Question 21 is 5 marks)

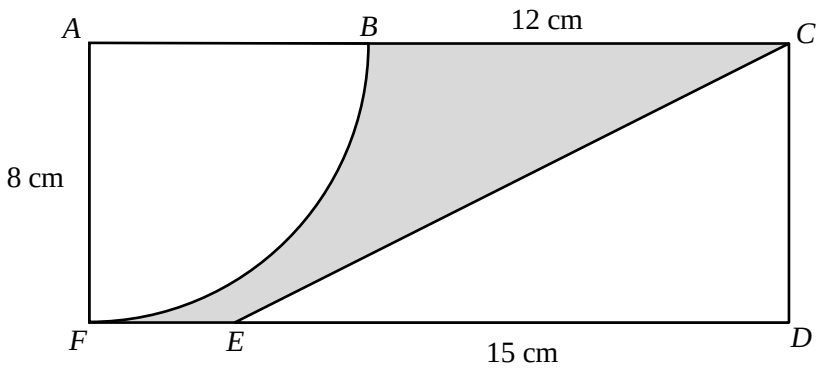
22 Shara invests £4000 in a savings account for 3 years.
The account pays compound interest at a rate of 2.5% per annum.

Calculate the total amount of interest Shara will get at the end of 3 years.

£ .....

(Total for Question 22 is 3 marks)

23



ACDF is a rectangle.
ABF is a sector
CDE is a triangle.

AF = 8cm
ED = 15 cm
BC = 12 cm

Calculate the shaded area.
Give your answer as a decimal.

..... cm^2

(Total for Question 23 is 5 marks)

TOTAL FOR PAPER IS 80 MARKS