



Class
Maths

PREDICTED PAPER



Video Solutions

Candidate Surname		Other names	
Centre Number		Candidate Number	
Friday 20 May 2022			
Morning (Time: 1 hours 30 minutes)			
Mathematics			
Paper 1 (Non-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 I need to **revise**

Topics I need to **learn**

Silly Mistakes?

Target mark for next time





Answer ALL questions

Write your answers in the spaces provided

You must write down all the stages in your working.

1 Write a number in each box to make the calculation correct.

(i) $-7 + \boxed{\text{.....}} = -4$ (1)

(ii) $10 - \boxed{\text{.....}} = 12$ (1)

(Total for Question 1 is 2 marks)

2 Write down the value of the number 5 in the number 15044

.....
(Total for Question 2 is 1 mark)

3 (a) Simplify $6 \times a \times a$

.....
(1)

(b) Simplify $b^2 + b^2 + b^2$

.....
(1)

(c) Simplify $7c - 3d + c + 5d$

.....
(2)

(Total for Question 3 is 4 marks)

DO NOT WRITE IN THIS AREA

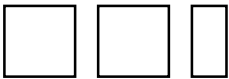
DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA




4 Torie collects toy cars of different colours.

The pictogram shows the number of toy cars that she has that are red and that are green.

Red	
Blue	
Yellow	

Key:



represents 4 toy cars

(a) Write down the number of red toy cars that Torie has.

.....
(1)

Torie has 5 blue toy cars.
In total Torie has 21 toy cars.

(b) Use this information to complete the pictogram.

(3)

(Total for Question 4 is 4 marks)

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA



- 5 Write the following in order of size.
Start with the smallest.

$$\frac{3}{4}$$

0.08

72%

$$\frac{7}{10}$$

.....
(Total for Question 5 is 2 marks)

- 6 Gareth is buying some equipment for school. He buys:

- 5 pens that cost 12p each
- 3 rulers costing 30p each
- 1 calculator costing £6.00
- 1 pencil case.

Gareth pays with a £10 note and receives 20p change.

Work out the cost of the pencil case.

.....
(Total for Question 6 is 3 marks)

DO NOT WRITE IN THIS AREA

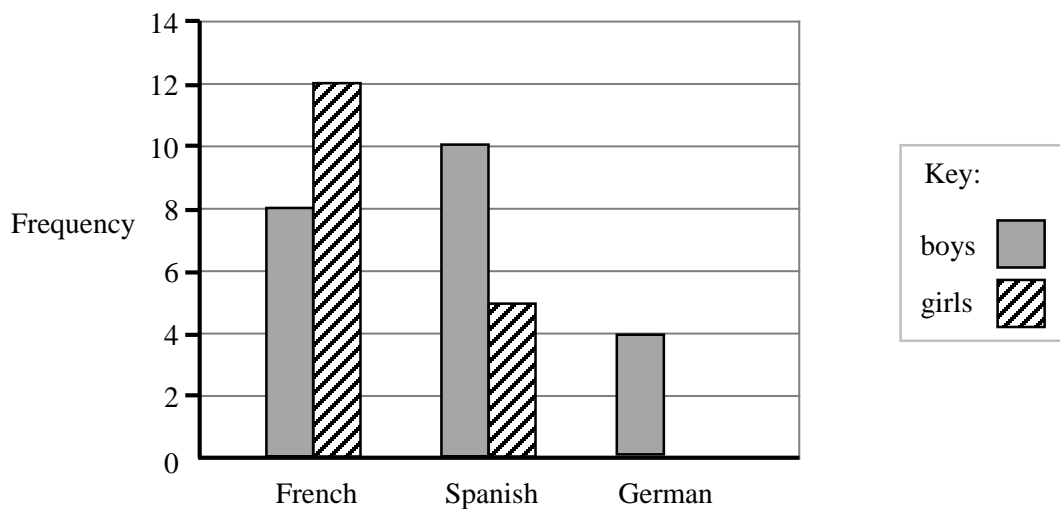
DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA





7 A teacher asks the members of languages club which language is their favourite to study. The dual bar chart shows some of the results.



More students selected French than selected Spanish.

(a) How many more students?

.....
(1)

9 girls selected German.

(b) Show this information in the dual bar chart.

(1)

(c) In total, how many students attended languages club?

.....
(2)

(Total for Question 7 is 4 marks)

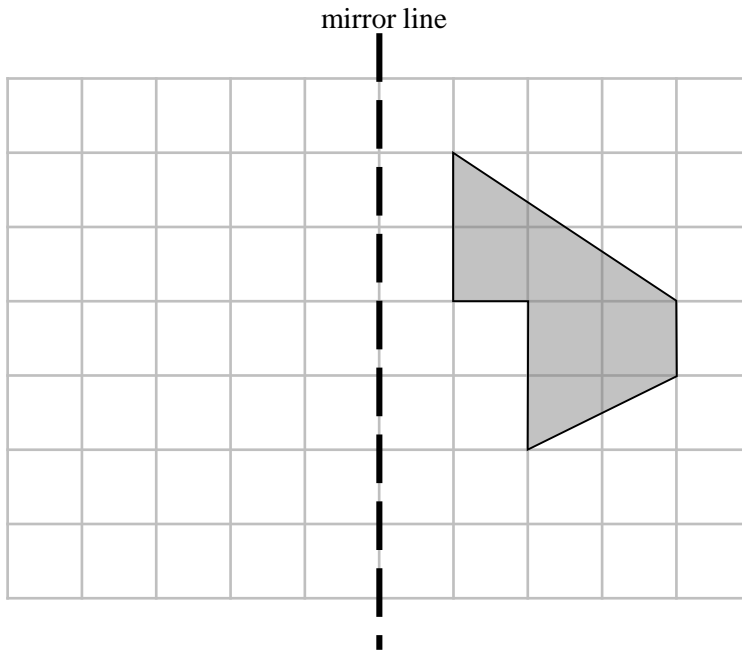
DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



8



Reflect the shape in the mirror line

(Total for Question 8 is 2 marks)

- 9 300g of cheese costs £2.40
Work out the cost of 200g of cheese.

.....
(Total for Question 9 is 2 marks)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA





DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

10 $R = 3u + 4$

(a) Work out the value of R when $u = 5$

.....
(2)

(b) Work out the value of u when $R = 43$

.....
(2)

(Total for Question 10 is 4 marks)

11 Marianna runs 1.2 km.

Ian runs 25% further than Marianna.

Work out how far Ian runs.

Give your answer in metres.

..... m

(Total for Question 11 is 3 marks)



12 Here are the ages of 20 teachers in a school.

24	38	47	42	44	31	53	40	55	59
45	27	26	44	51	35	35	39	41	62

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

(3)



One of the 20 teachers is chosen at random.

(b) Write down the probability that this teacher is under 30 years old.

.....
(1)

(Total for Question 12 is 4 marks)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA





13 Tom drives a journey in two parts.

The first part of the journey Tom drives for 2 hours at 60 mph.

The second part of the journey Tom drives for 1 hour 30 minutes at 50 mph.

Tom claims that he drives over 200 miles in total.

Show that Tom is wrong.

(Total for Question 13 is 3 marks)

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA



14 Here are the first four terms of an arithmetic sequence.

7 11 15 19

Write down an expression in terms of n , for the n th term of the sequence.

The n th term of a another sequence is given by the expression $5n - 2$

.....
(2)

(b) Find the 7th term of this sequence.

.....
(1)

(Total for Question 14 is 3 marks)

15 Work out an estimate for $\frac{499 \times 31}{19.88}$

.....
(Total for Question 15 is 3 marks)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

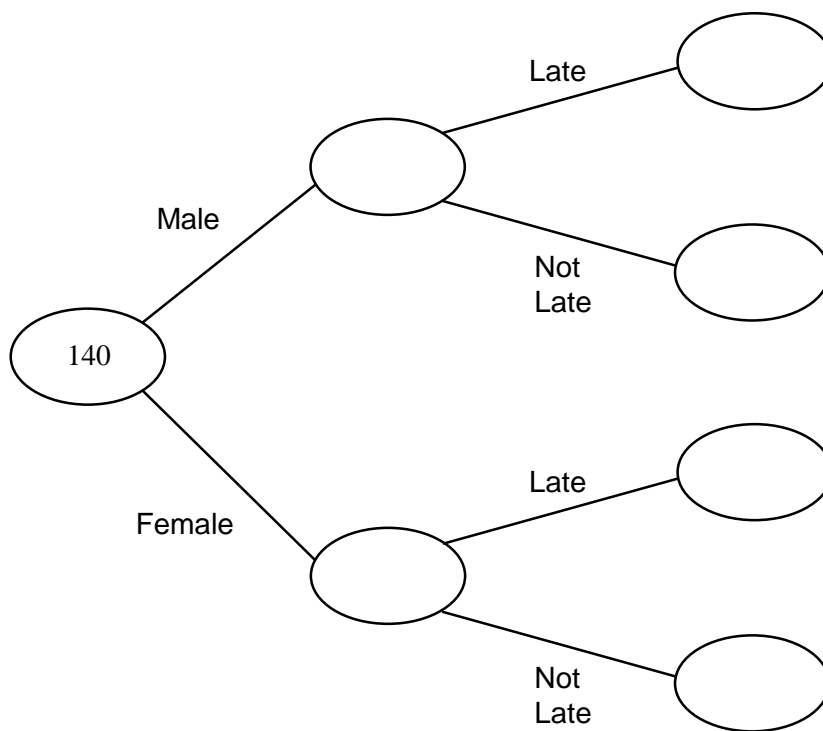
DO NOT WRITE IN THIS AREA



16 There are 140 students in year 7.

75 of the students are male.
13 males were late to school.
8 females were late to school.

(a) Use this information to complete the frequency tree.



(3)

One of the 140 students is chosen at random.

(b) Write down the probability that this student is a male who was late to school.

.....
(1)

(Total for Question 16 is 4 marks)

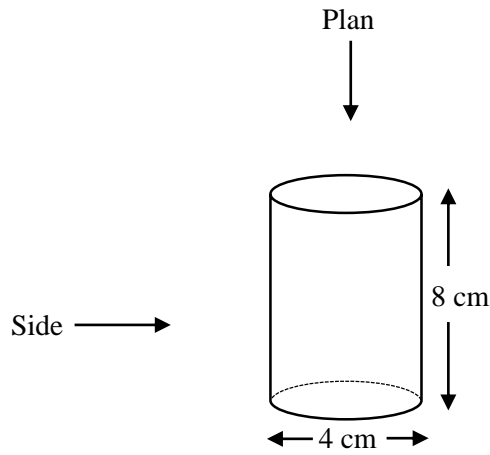
DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

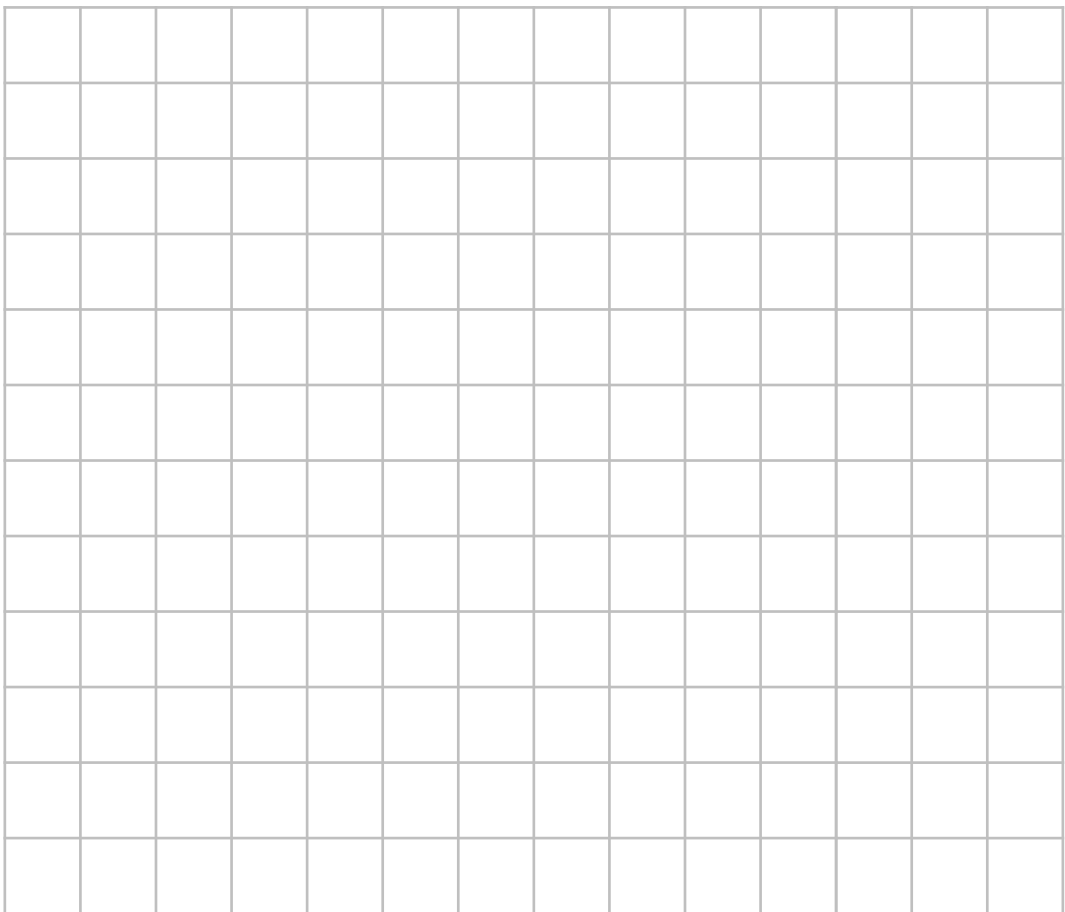
DO NOT WRITE IN THIS AREA



17 Here is a cylinder.



(a) On the cm grid below draw an accurate plan and side elevation of the cylinder.



(2)

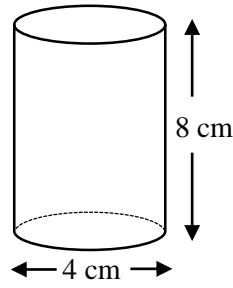
DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



- 17 (b) Find the volume of the cylinder.
Give your answer in terms of π .



..... cm^3
(2)

(Total for Question 17 is 4 marks)

DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA
DO NOT WRITE IN THIS AREA



18 Write 126 as a product of its prime factors.

.....
(Total for Question 18 is 2 marks)

19 Solve $9p < 48 - 3p$

.....
(Total for Question 19 is 2 marks)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA





DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

20 (a) Write 6.25×10^{-3} as an ordinary number.

.....
(1)

(b) Work out $(7 \times 10^{12}) \times (4 \times 10^3)$
Give your answer in standard form.

.....
(2)

(Total for Question 20 is 3 marks)

21 Helen and Emma share some money in the ratio 2 : 5
Emma receives £21 more than Helen.

Work out how much money Emma receives.

.....
(Total for Question 21 is 3 marks)



22 (a) Work out $\frac{4}{3}$ of 24

.....
(1)

(b) Work out $4\frac{2}{3} + 3\frac{1}{4}$

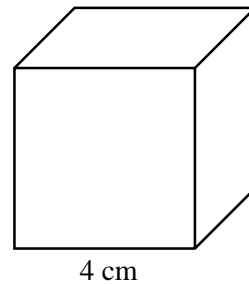
.....
(2)

(Total for Question 22 is 3 marks)

23 The diagram show a solid cube.

The cube has a mass of 16 grams.

Work out the density of the cube.



..... g/cm³

(Total for Question 23 is 3 marks)

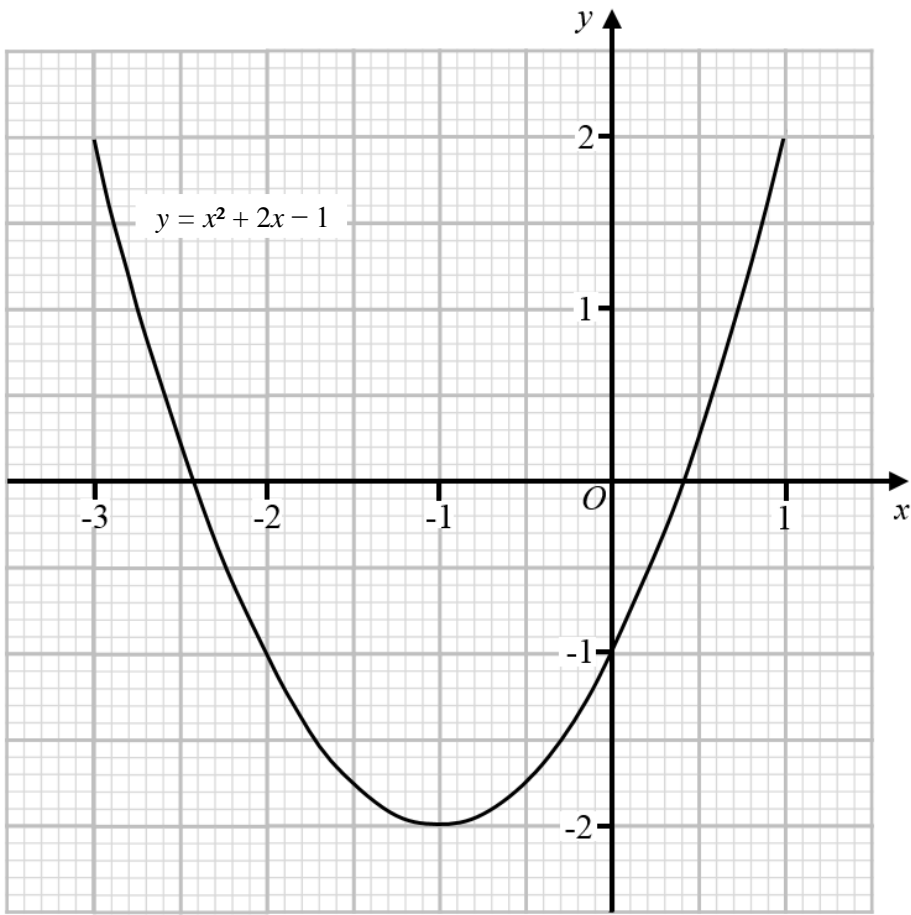
DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



24



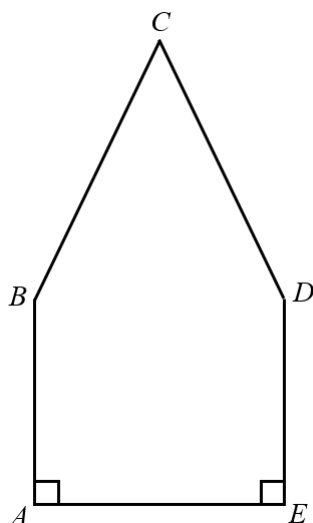
Use this graph to find estimates for the solutions of the quadratic equation $x^2 + 2x - 1 = 0$

.....
(Total for Question 24 is 2 marks)

DO NOT WRITE IN THIS AREA



- 25 $ABCDE$ is a pentagon.
The pentagon has one line of symmetry.



Angle $ABC = 4 \times$ angle BCD .

Work out the size of angle BCD .
You must show all your working.

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

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





DO NOT WRITE IN THIS AREA

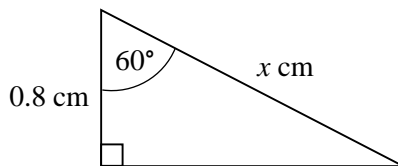
DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

26 (a) Write down the exact value of $\tan 60^\circ$

.....
(1)

(b)



Given that $\cos 60^\circ = 0.5$,
work out the value of x .

..... cm
(2)

(Total for Question 26 is 3 marks)

27 a is 25% of b .
 b is 30% of c .

Write the ratio $a : b : c$
Give your ratio in its simplest form.

.....

(Total for Question 27 is 3 marks)

TOTAL FOR PAPER IS 80 MARKS