1st Class Maths

PREDICTED PAPER

Video Solutions

Candidate Surname	Other names

Centre Number	Candidate Number

Monday 13 June 2022

Morning (Time: 1 hours 30 minutes)

Mathematics

Paper 3 (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 47% as a fraction.

.....

(Total for Question 1 is 1 mark)

2 Write down all of the factors of 20.

.....

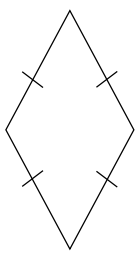
(Total for Question 2 is 1 mark)

3 Find the value of $\sqrt{92.16}$

.....

(Total for Question 3 is 1 mark)

4 Write down the name of this quadrilateral.



.....

(Total for Question 4 is 1 mark)

5 Here are some fractions.

$$\frac{20}{30} \quad \frac{12}{18} \quad \frac{4}{6} \quad \frac{12}{15} \quad \frac{40}{60}$$

One of these fractions is not equivalent to $\frac{2}{3}$

(a) Which fraction?

.....

(1)

(b) Work out $\frac{2}{3}$ of 138

.....

(1)

(Total for Question 5 is 2 marks)

6 Use your calculator to work out $\frac{12^3 + 3.9^2}{\sqrt{314}}$

Write down all the figures on your calculator display.

.....

(Total for Question 6 is 2 marks)

7 A class of 25 students were asked what their favourite sport was.

The table shows the results.

Sport	Football	Rugby	Hockey	Tennis	Other
Frequency	11	6	3	2	3

(a) What fraction of the 25 students did **not** select football.

.....

(2)

(b) What percentage of the 25 students selected rugby.

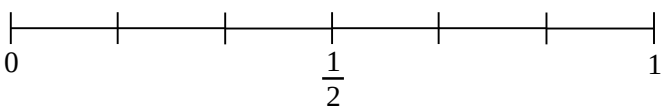
.....

(2)

(Total for Question 7 is 4 marks)

8 An ordinary dice is thrown once.

(a) On the probability scale below, mark with a cross (×) the probability that the dice lands on a number less than 5



(1)

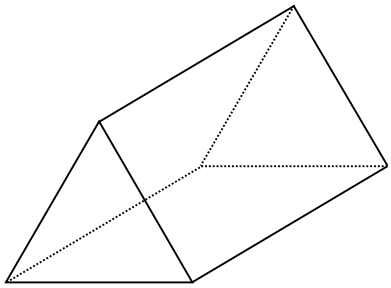
(b) Write down the probability that the dice lands on a number 3.

.....

(1)

(Total for Question 8 is 2 marks)

9 Here is a triangular prism.



Complete the table below for a triangular prism.

Number of faces	5
Number of edges	
Number of vertices	

(Total for Question 9 is 2 marks)

10 Here are the first 4 terms of a sequence.

6 17 28 39

(a) (i) Write down the next term in the sequence.

.....

(1)

(ii) Explain how you got your answer.

.....

(1)

(b) Work out the 10^{th} term of the sequence.

.....

(1)

(Total for Question 10 is 3 marks)

11 Here is some information about the cost of photocopying at a shop.

Colour copy	12p per sheet
Black and white copy	5p per sheet

Joe is going to photocopy 42 colour copies and 27 black and white copies.

Work out the total cost of Joe's photocopying.
Give your answer in pounds (£).

£ .....

(Total for Question 11 is 3 marks)

12 The probability of Sash winning a game is $\frac{17}{30}$

Work out the probability that Sash does not win the game.

.....

(Total for Question 12 is 2 marks)

13 Work out an estimate for $\frac{3789}{0.19}$

.....

(Total for Question 13 is 2 marks)

14 Elina is making improvements to her garden.

The table shows the costs per m^2 of new lawn and new patio.

Item	Cost
New Lawn	£29 per m^2
New Patio	£79 per m^2

The size of Elina's garden is 25 m^2

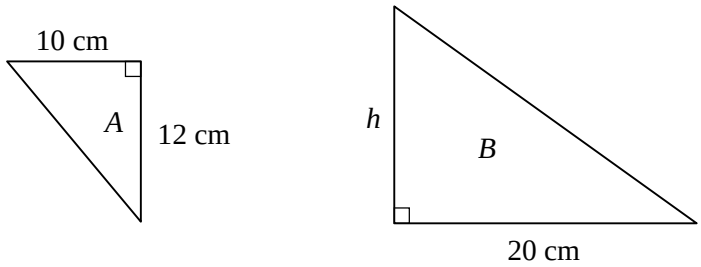
Elina wants 12 m^2 of the garden to be patio and the rest will be lawn.

Work out the total cost Elina will have to pay.

£ .....

(Total for Question 14 is 3 marks)

15 Here are two right angled triangles.



Area of triangle B = 3 × Area of triangle A.

Work out the value of the perpendicular height, h, of triangle B.

..... cm

(Total for Question 15 is 4 marks)

16 Here is a map of an island.

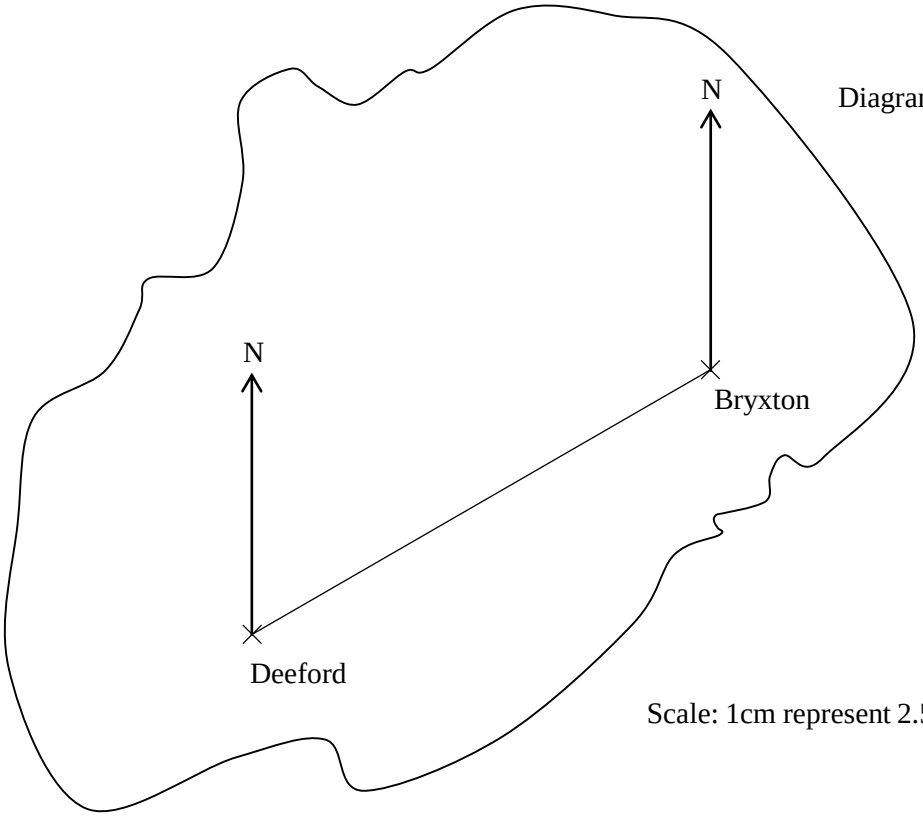


Diagram accurately drawn

Scale: 1cm represent 2.5 km

A straight road joins the two towns, Deeford and Bryxton.

(a) Work out the real distance between the two towns.

..... km

(2)

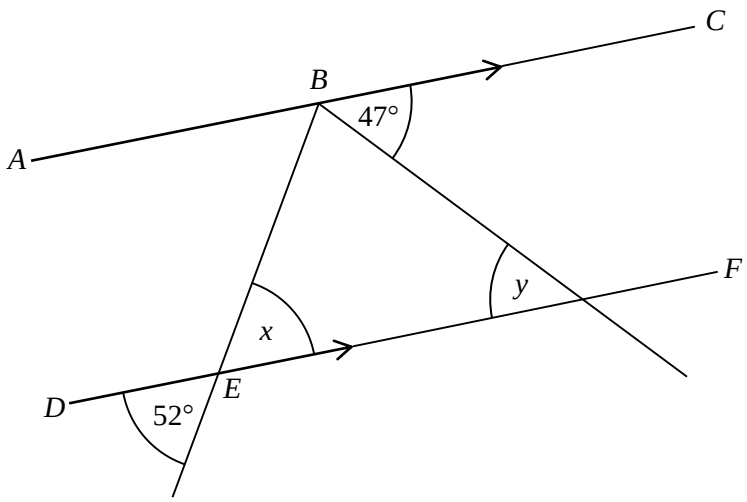
(b) Find the bearing of Bryxton from Deeford.

.....°

(1)

(Total for Question 16 is 3 marks)

17



ABC and *DEF* are parallel lines.

(a) Write down the value of *x*.

.....°

(1)

(b) Write down the value of *y*.

.....°

(1)

(c) Give a reason to your answer for part (b).

.....

.....

(1)

(Total for Question 17 is 3 marks)

18 Here are the test scores, as a percentage, for 10 boys in a class.

85	55	54	60	62
51	65	91	50	74

(a) Work out the median test score for the boys.

.....

(2)

(b) Work out the range of the boys' test scores.

.....

(2)

12 girls from the class also did the test.
The table below shows information about their test scores.

Median test score	66
Range of test scores	48

(c) Compare the distribution of the of the boys' test scores with the girls' test scores.

.....

.....

.....

.....

.....

(2)

(Total for Question 18 is 6 marks)

19 (a) Expand $t(5 - t)$

.....

(1)

(b) Factorise $x^2 + 9x + 20$

.....

(2)

(Total for Question 19 is 3 marks)

20 Riyan is waiting at a bus stop.

Bus A arrives at the bus stop every 12 minutes.
Bus B arrives at the bus stop every 16 minutes.

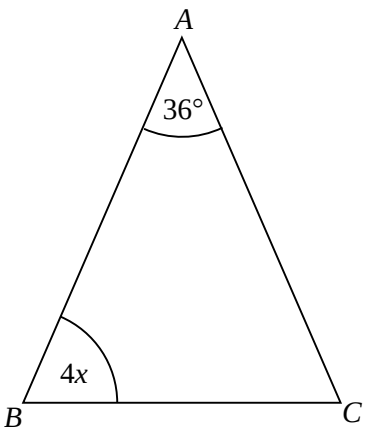
Both busses arrive together at the bus stop at 10:30 am.

Work out the next time that both busses will arrive at the bus stop at the same time.

.....

(Total for Question 20 is 3 marks)

21



ABC is an isosceles triangle.
AB = *AC*

Find the value of *x*.

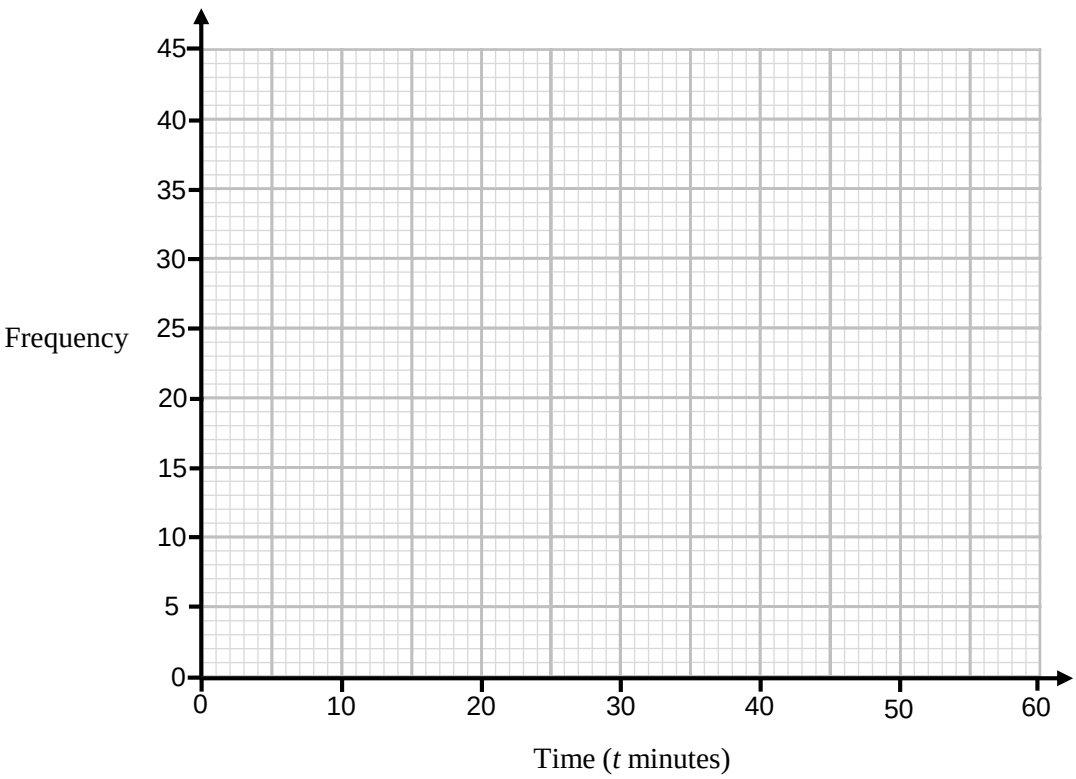
.....°

(Total for Question 21 is 4 marks)

22 The table shows information about the time, t minutes, that 100 students spent revising.

Time (t minutes)	Frequency
$10 < t \leq 20$	7
$20 < t \leq 30$	20
$30 < t \leq 40$	41
$40 < t \leq 50$	19
$50 < t \leq 60$	13

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



(Total for Question 22 is 2 marks)

23 $v = u + at$

$u = 7$ $a = 9.8$ $t = 15$

(a) Work out the value of v.

.....

(2)

(b) Make t the subject of $v = u + at$

.....

(2)

(Total for Question 23 is 4 marks)

24 Martin buys a 350 g chocolate bar.

The information is on the packaging.

Nutritional Information (per 100g)	
Fat	28 g
Sugars	56 g
Other	16 g

Martin eats 60% of the chocolate bar.

Work out how many grams of sugar Martin has eaten.

..... g

(Total for Question 24 is 3 marks)

25 A bag contains only green, red and blue counters.

In total there are 800 counters in the bag.
26 of the counters are blue.
35% of the counters are green.

The ratio of red counters to blue counters is $k : 1$.

Find the value of k.

.....

(Total for Question 25 is 3 marks)

26 The population of Manchester rose by 20% between 2009 and 2019.

In 2019 the population was 576,000.

Work out the population of Manchester in 2009.

.....

(Total for Question 26 is 2 marks)

27 Keane drives his car 180 miles from his home in Bristol to Liverpool.

He leaves his home at 09 30 and arrives in Liverpool at 12 42.

Work out the average speed of Keane's journey in mph.

..... mph

(Total for Question 27 is 4 marks)

28 The table shows information about the daily temperature during a school week.

Monday	Tuesday	Wednesday	Thursday	Friday
18 °C	19 °C	26 °C	20 °C	21 °C

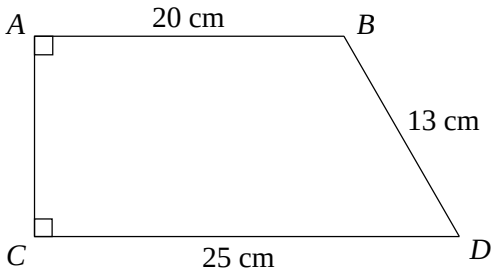
Calculate the percentage decrease in temperature between Wednesday and Thursday.

Write your answer to 1 decimal place.

..... %

(Total for Question 28 is 3 marks)

29



ABCD is a trapezium.
Line *AB* is parallel to line *CD*.

Calculate the area of the trapezium *ABCD*.

..... cm^2

(Total for Question 29 is 4 marks)

TOTAL FOR PAPER IS 80 MARKS