1st Class Maths

Video Solutions

SCAN ME

PRACTICE PAPER FOR

Edexcel Paper 3F (June 2024)

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

This paper has been created based on the **most 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 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. Anybody giving you any sort of guarantee is misleading you. If any topics or questions from this paper do come up, this is just lucky guessing and nothing more. ☺

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

You can find a link to this paper and many 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 Write 7% as a fraction.

.....

(Total for Question 1 is 1 mark)

2 Write down the value of the 5 in the number 3856

.....

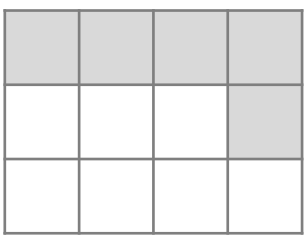
(Total for Question 2 is 1 mark)

3 Solve $4k = 44$

$k =$ .....

(Total for Question 3 is 1 mark)

4 Write down the fraction of the shape that is shaded.



.....

(Total for Question 4 is 1 mark)

5 Here is a list of numbers.

3 5 8 9 15 20

(a) From the list, write down a factor of 10

.....

(1)

(b) From the list, write down a square number

.....

(1)

(c) From the list, write down a cube number.

.....

(1)

(Total for Question 5 is 3 marks)

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

.....

(1)

(b) Simplify $7b + 5c - 3b - 9c$

.....

(2)

(Total for Question 6 is 3 marks)

Turn over ▶

7 Gail's phone company charges 12p for each minute that she spends making phone calls.

During one month Gail spends $2\frac{1}{4}$ hours making phone calls.

Work out how much Gail will need to pay for the phone calls during this month.

£ .....

(Total for Question 7 is 3 marks)

8 (a) Expand $5(m + 6)$

.....

(1)

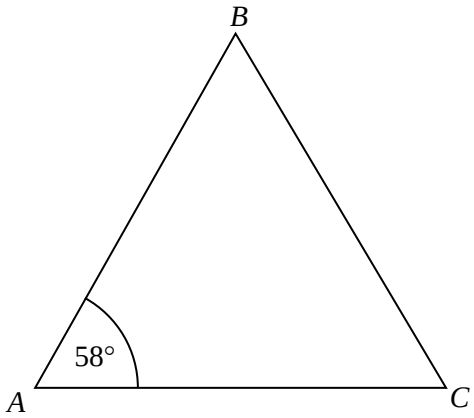
(b) Factorise $18 - 3n$

.....

(1)

(Total for Question 8 is 2 marks)

9 *ABC* is an isosceles triangle.



Harry assumes that $AB = BC$

(a) Using Harry's assumption work out the size of the largest angle in the triangle.

.....°

(2)

Meghan assumes that $AB = AC$

(b) Using Meghan's assumption work out the size of the largest angle in the triangle.

.....°

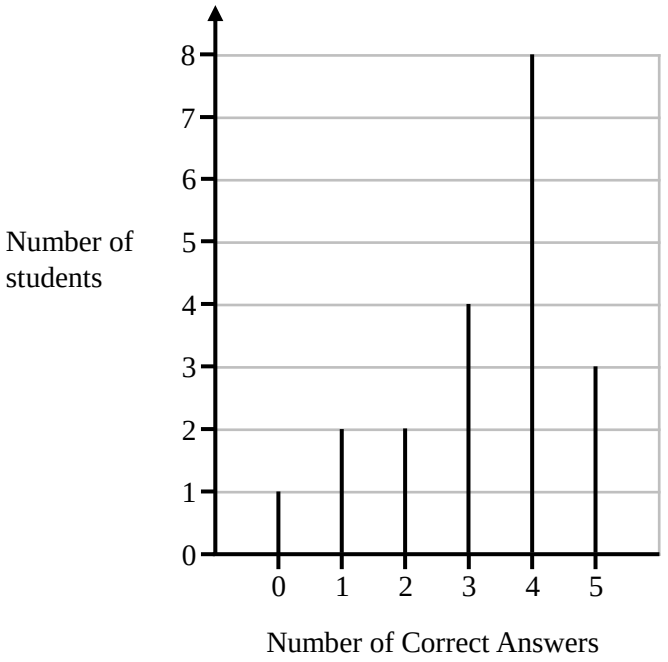
(2)

(Total for Question 9 is 4 marks)

Turn over ▶

10 A class of 20 students each answered 5 quiz questions.

The chart shows results.



(a) Find the modal number of correct answers.

.....

(1)

(b) Work out the percentage of students that had 3 or more correct answers.

.....%

(3)

(Total for Question 10 is 4 marks)

11 Here is a map of a country.

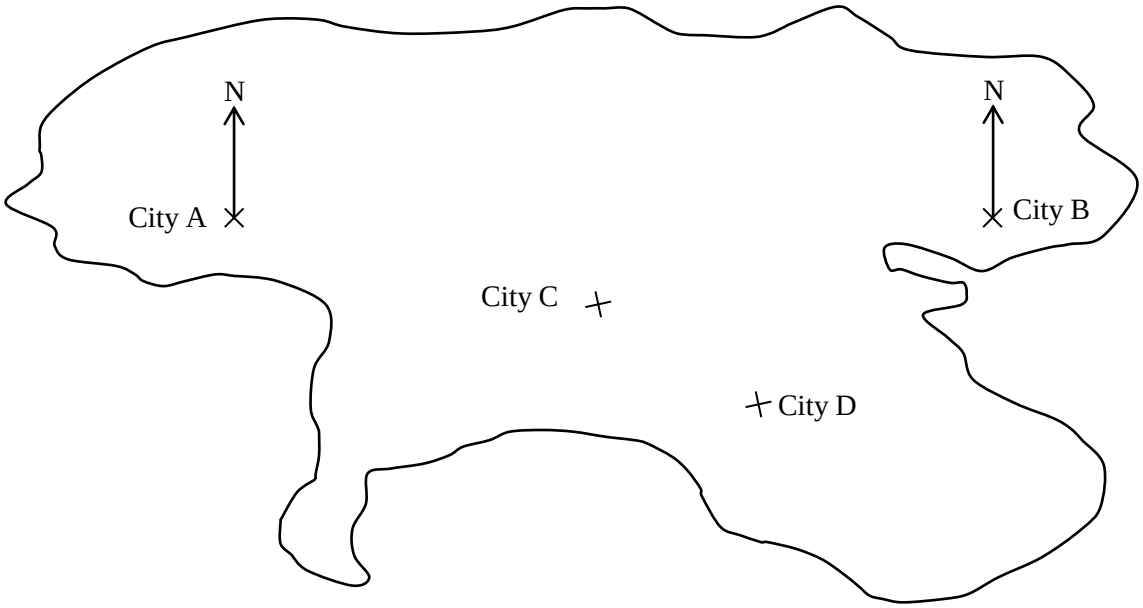


Diagram accurately drawn

The real distance between City A and City B is 180 miles.

(a) Work out the real distance between City C and City D.

..... miles

(2)

(b) Find the bearing of City B from City A.

°

.....

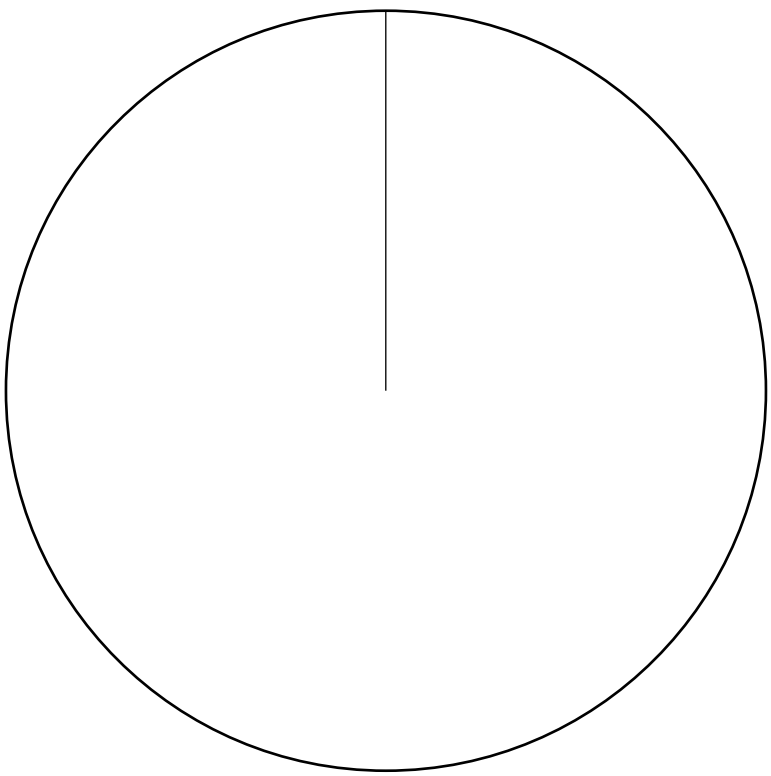
(1)

(Total for Question 11 is 3 marks)

12 The table below shows information about the favourite subject of some students

Subject	Frequency
Maths	28
English	10
Science	13
Other	9

Draw an accurate pie chart for this information.



(Total for Question 12 is 3 marks)

13 A bag contains counters that are either red or blue.

$\frac{1}{5}$ of the counters in the bag are red.

(a) Write down the ratio of red counters to blue counters in the bag.

.....

(1)

The counters in the bag are either large or small.

27 of the counters are large
6 of the counters are small

Write down the ratio of large counters to small counters.
Give your answer in the form $n : 1$

.....

(2)

(Total for Question 13 is 3 marks)

14 60 Year 9 students and 40 Year 11 students were asked what their favourite science was.

5 of the 12 students who said Biology were in Year 11.
66 students said Physics.

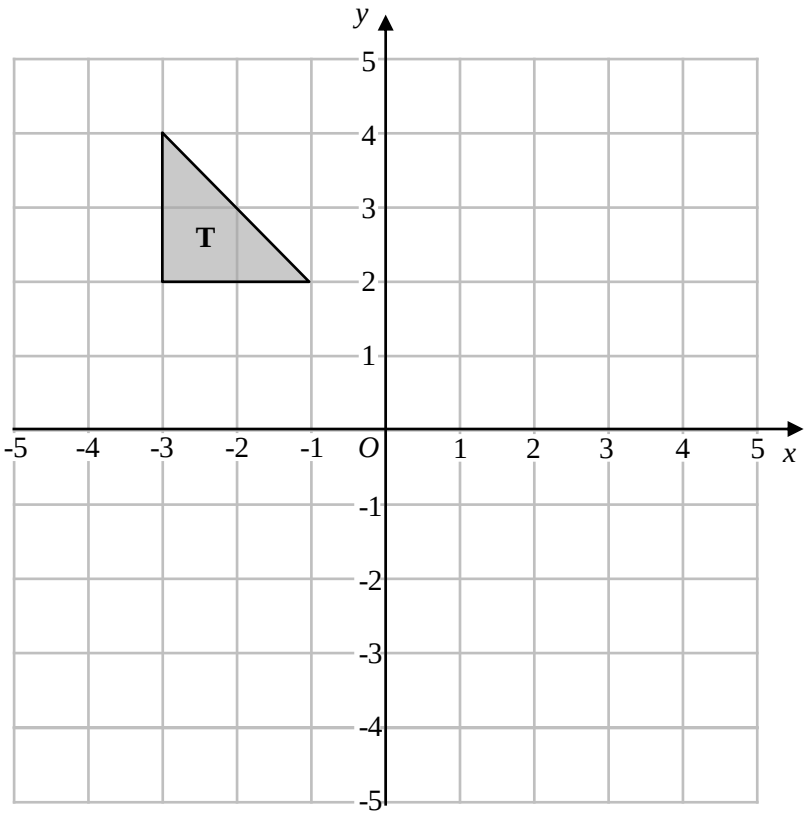
$\frac{1}{4}$ of the Year 9 students said Chemistry.

Complete the two-way table below.

	Biology	**Chemistry**	**Physics**	**Total**
Year 9				
Year 11				
Total				

(Total for Question 14 is 3 marks)

15



(a) Rotate triangle **T** 180° clockwise about the origin.
Label the new triangle **A**.

(1)

(b) Reflect triangle **T** in the line $y = 1$

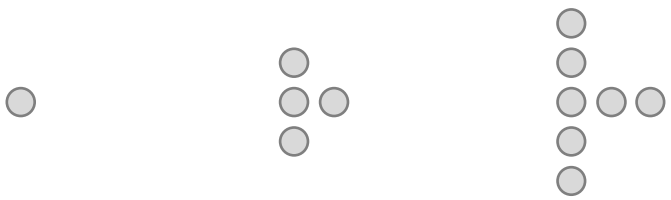
Label the new triangle **B**.

(2)

(Total for Question 15 is 3 marks)

16 Here is a sequence of patterns made with counters.

pattern number 1 pattern number 2 pattern number 3 pattern number 4



(a) Draw pattern number 4 in the space above

(1)

(b) Work out how many counters will be needed for pattern 100.

.....

(3)

(Total for Question 16 is 4 marks)

17 £1 = $1.28

A mobile phone costs £350 in the United Kingdom.
The same mobile phone costs $400 in the USA.

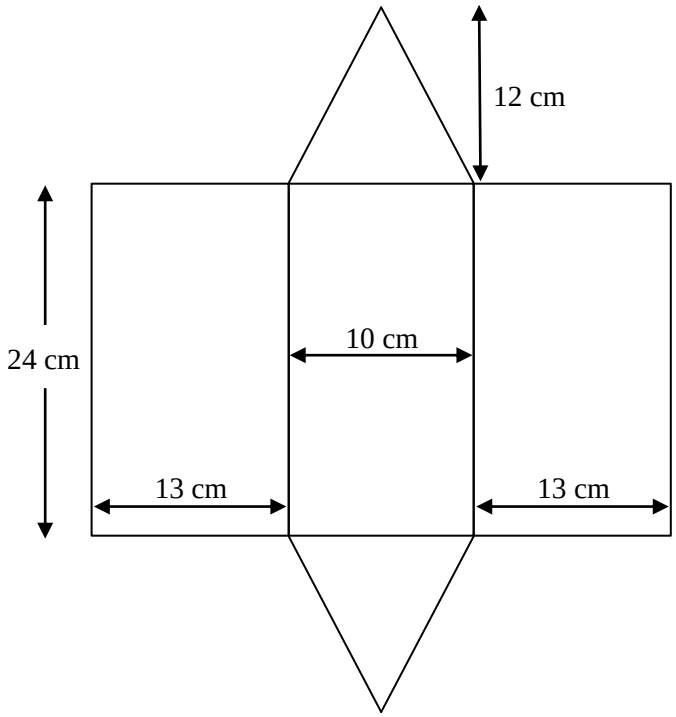
The delivery cost for the phone in the United Kingdom is £x
The delivery cost for the phone in the USA is $64

The total cost for the mobile phone and delivery in the same in both countries.
Work out the value of x.

x = ...

(Total for Question 17 is 3 marks)

18 Here is the net of a triangular prism made from 3 rectangles and 2 isosceles triangles.



Work out the total surface area of the triangular prism.

..... cm^2

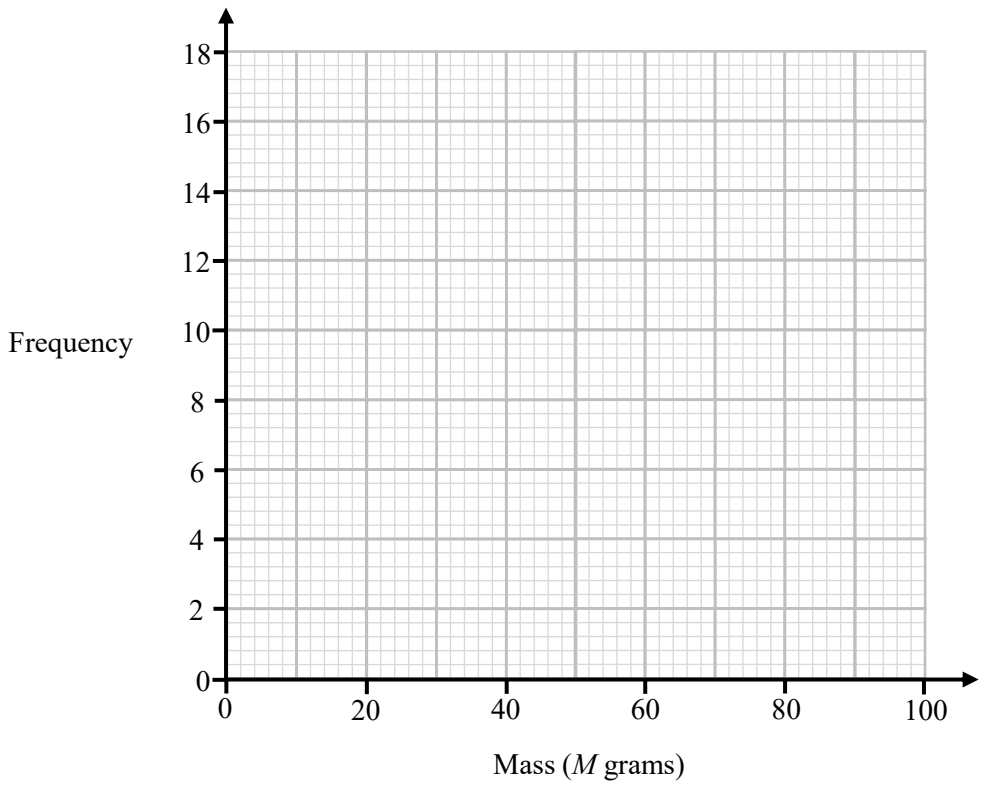
(Total for Question 18 is 4 marks)

Turn over ▶

19 The table shows information about the mass, M grams, of 40 carrots in bag

Mass (M grams)	Frequency
$0 < M \leq 20$	2
$20 < M \leq 40$	5
$40 < M \leq 60$	8
$60 < M \leq 80$	16
$80 < M \leq 100$	9

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



(Total for Question 19 is 2 marks)

20 Work out $\dfrac{5.5 \times 10^3 + 4.5 \times 10^6}{1.8 \times 10^{-3}}$

Give your answer in standard form, correct to 2 significant figures.

.....

(Total for Question 20 is 2 marks)

21 (a) Simplify $\dfrac{18a^{10}b^{15}}{6a^2b^{-3}}$

.....

(2)

(b) $(3^{30} \times 3^5)^{100} = 3^k$

Work out the value of k.

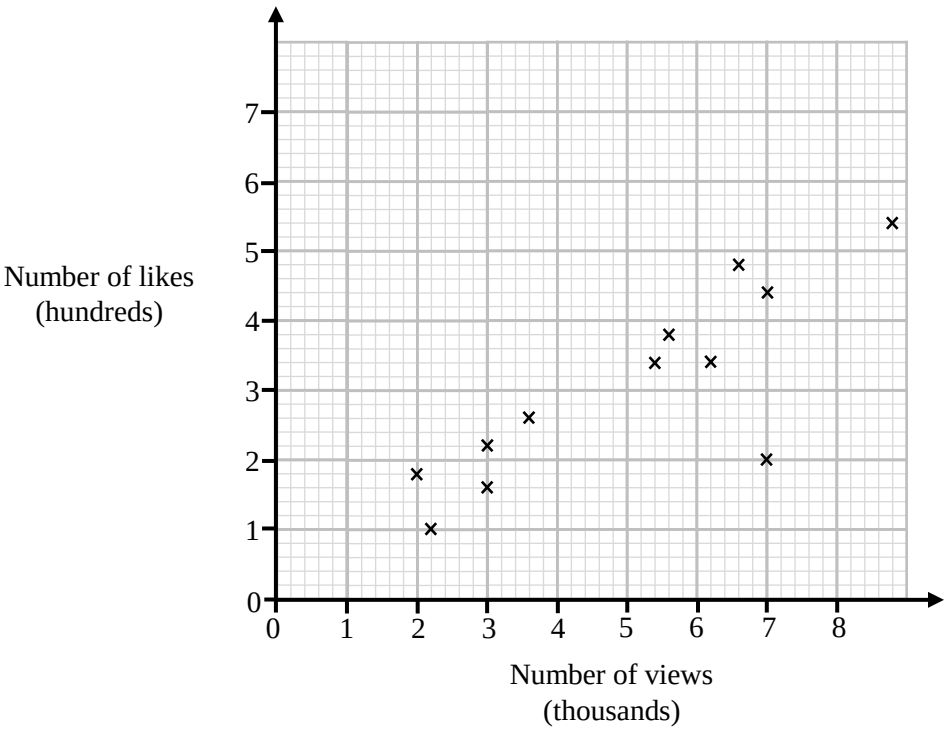
k = ...

(2)

(Total for Question 21 is 4 marks)

Turn over ▶

22 The scatter graph shows number of likes and the number of views for 12 videos uploaded by a user to a TikTok account.



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

(1)

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

.....

(1)

The user uploaded another video that receives 300 likes.

(c) Estimate the number of views that the video received.

..... views

(2)

(Total for Question 22 is 4 marks)

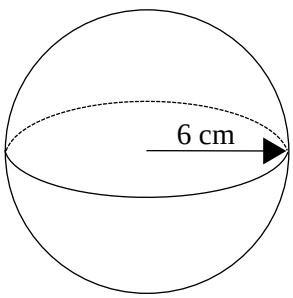
23 In 2022 Sammi had 3200 subscribers on YouTube.
In 2023 Sammi had 3760 subscribers on YouTube.

Work out the percentage increase in Sammi's subscribers between 2022 and 2023.

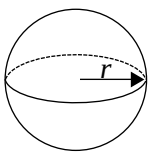
..... %

(Total for Question 23 is 3 marks)

24 The diagram shows a sphere with radius 6 cm
The sphere is made from metal with a density of 8 g/cm^3



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



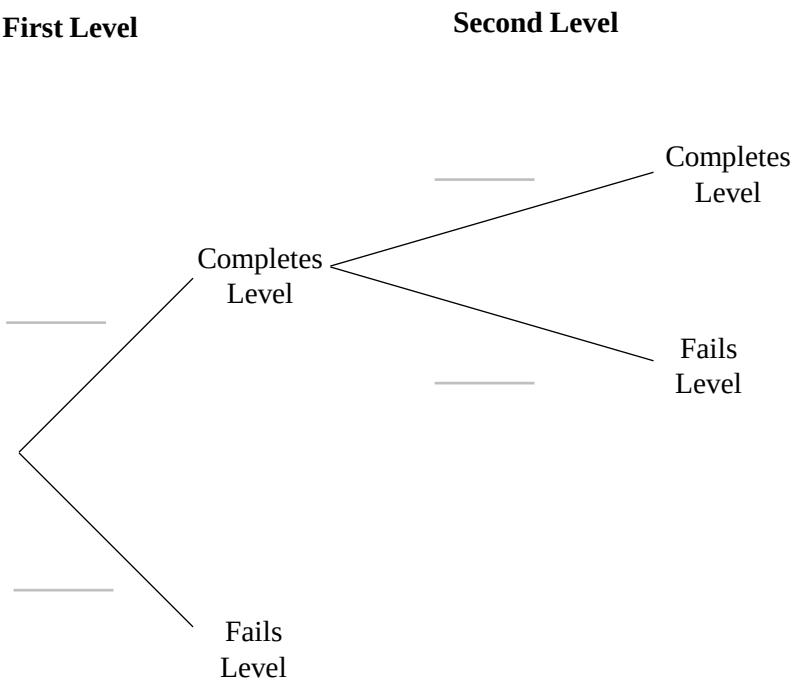
Work out the mass of the sphere.
Give your answer to 4 significant figures.

..... g

(Total for Question 24 is 4 marks)

25 Max is playing a computer game with two levels.
If Max completes the first level, he will be able to attempt the second level.
If Max fails the first level, he will not be able to attempt the second level.
Max estimates that his probability of completing the first level is 0.4
If Max gets to play the second level, he estimates his probability of completing it to be 0.3

(a) Complete the probability tree diagram



(2)

(b) Using Max's estimates work out the probability that he does not complete both levels.

.....

(2)

(Total for Question 25 is 4 marks)

26 Some of the ingredients needed to make 12 flapjacks are shown below.

For 12 flapjacks	
Oats	250 g
Butter	125 g
Sugar	125 g
Syrup	3 tablespoons

(a) Work out how much butter is needed to make 42 flapjacks.

..... g

(2)

Kian has 1.2 kg of butter.

(b) Work out the maximum number of flapjacks that Kian can make.
Assume that Kian has enough of each of the other ingredients.

.....

(2)

(Total for Question 26 is 4 marks)

27 A number, y, is rounded to 1 decimal place.
The result is 6.6
Complete the error interval for y.

..... $\leq y <$ .....

(Total for Question 27 is 2 marks)

28 Here are two column vectors $\mathbf{a} = \begin{pmatrix} 10 \\ -1 \end{pmatrix}$ $\mathbf{b} = \begin{pmatrix} -3 \\ 8 \end{pmatrix}$

Work out $\mathbf{a} + 2\mathbf{b}$ as a column vector.

$\begin{pmatrix} \ldots\ldots \\ \ldots\ldots \end{pmatrix}$

(Total for Question 28 is 2 marks)

TOTAL FOR PAPER IS 80 MARKS