Countdown to your final Maths exam ...
Part 6 (2019)

	Marks	Actual	
Q1. Change the subject (Clip 25)	2		
Q2. Averages from a table (Clips 26 and 27)	5		
Q3. Proportion – recipes (Clip 18)	3		
Q4. Forming and Solving equations (Clips 71 and 72)	2		
Q5. Averages from a table / Pie Charts (Clips 26, 27, 49)	6		
Q6. Proportion – recipes (Clip 18)	3		
Q7. Averages from a list (Clip 26)	2		
Q8. Forming and Solving equations (Clips 71 and 72)	3		
Q9. Change the subject (Clip 25)	2		
Q10. Averages (Clip 26)	6		
Q11. Change the subject (Clip 25)	2		
Q12. Proportion – recipes (Clip 18)	4		
Q13. Averages from a list (Clips 26 and 27)	6		
Q14. Change the subject (Clip 25)	2		
Q15. Averages (Clip 26)	4		
Q16. Averages from a list (Clips 26 and 27)	6		
Q17. Change the subject (Clip 25)	2		
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Q1. Make h the subject of the formula $x = 5h + 8$

(2)

Q2. Callum watched 20 cars go onto a ferry. He counted the number of people in each car.

Here are his results.

1	3	3	4	1	2	2	3	5	4
2	2	4	5	1	3	2	2	3	2

(a) Complete the frequency table.

Number of people in a car	Tally	Frequency
1		
2		
3		
4		
5		

(2)

(b) Write down the mode.

(1)

Fiona counted the number of cars going onto 6 ferries. Here are her results.

20	18	23	17	15	21

(c) Calculate the mean number of cars.

(2)

Q3. Jane made some almond biscuits which she sold at a fete.

She had:

5 kg of flour

3 kg of butter

2.5 kg of icing sugar

320 g of almonds

Here is the list of ingredients for making 24 almond biscuits.

Ingredients for 24 almond biscuits
150 g flour
100 g butter
75 g icing sugar
10 g almonds

Jane made as many almond biscuits as she could, using the ingredients she had.

Work out how many almond biscuits she made.

(3)

Q4. Dan, Harry and Regan sell cars.

Dan sells x cars.
Harry sells 5 more cars than Dan.
Regan sells twice as many cars as Dan.

Write an expression, in terms of x, for the mean number of cars Dan, Harry and Regan sell.

(2)

Q5. The table gives information about the number of goals scored by a football team in each match last season.

Number of goals	Frequency
0	4
1	5
2	4
3	7
4	4

(a) Write down the modal number of goals scored.

.....

(1)

(b) Work out the total number of goals scored by the team last season.

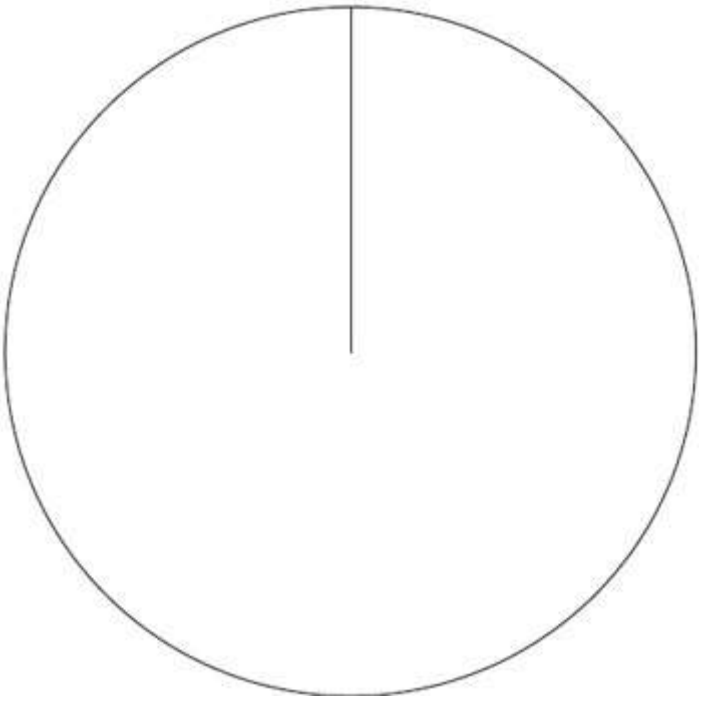
(2)

The table below gives information about the results of the matches played by the football team.

Result	Frequency
Won	10
Drew	6
Lost	8

(c) Draw an accurate pie chart to show this information.

(3)



Q6. Here are the ingredients needed to make 16 chocolate biscuits.

Chocolate biscuits

Makes **16** chocolate biscuits

100 g	of butter
50 g	of caster sugar
120 g	of flour
15 g	of cocoa

Sabrina has 250 g of butter
300 g of caster sugar
600 g of flour
and 60 g of cocoa

Work out the greatest number of chocolate biscuits Sabrina can make. You must show your working.

(3)

Q7. Here is a list of numbers.

12 19 12 15 11 15 12 13 17

Find the median.

(2)

Q8. Alex is $x$cm tall.

Bob is 10cm taller than Alex.
Cath is 4cm shorter than Alex.

Write an expression, in terms of x, for the mean of their heights in centimetres.

(3)

Q9. Make m the subject of the formula $6m^2 = k$

(2)

Q10. Mrs Smith asked each student in her class to record the numbers of times they used their mobile phone last Saturday.

Here are the results for the boys.

Boys	8	10	8	9	7	9	8	13	14

(a) Work out the median.

(2)

Here are the results for the girls.

Girls	6	8	9	9	10	14	14

(b) Compare the numbers of times the boys used their mobile phones with the numbers of times the girls used their mobile phones.

(4)

Q11. Make t the subject of the formula $y = \frac{t}{3} - 2a$

(2)

Q12. Here is a list of ingredients for making chocolate mousse for 2 people.

Chocolate mousse for 2 people

40 grams sugar
110 grams dark chocolate
2 eggs
$\frac{1}{4}$ teaspoon lemon juice

Ellie has 250 grams of sugar and 550 grams of dark chocolate.
She assumes that she has plenty of lemon juice and plenty of eggs.

(a) What is the greatest number of people Ellie can make chocolate mousse for?
You must justify your answer.

(3)

Ellie only has 6 eggs.

(b) What effect would this have on the greatest number of people Ellie can make chocolate mousse for?

(1)

Q13. Here are some numbers.

3 6 2 2 5 3

(a) Find the median.

(2)

(b) Work out the range.

(2)

(c) Work out the mean.

(2)

Q14. $\boldsymbol{q = \frac{p}{r} + s}$ Make p the subject of this formula.

(2)

Q15. The stem and leaf diagram gives the heights, in cm, of some potato plants.

2	3	5	5	9		
3	0	4	7	7	7	7
4	1	3	4	4		
5	2	6	7	9		
6	3	6	8			

Key

2 | 3 represents 23 cm

(a) Write down the greatest height.

(1)

(b) Write down the mode.

(1)

(c) Find the median.

(2)

Q16. Here are the heights, in metres, that 10 men jumped in a high jump competition.

2.19 2.23 2.23 2.23 2.26 2.28 2.29 2.29 2.31 2.33

(a) For these heights, find

(i) the mode,

(ii) the mean,

(iii) the range.

(4)

In a high jump competition for women, the heights, in metres, that 10 women jumped were recorded.
For these heights

the mean was 1.95 m
the range was 0.18 m

(b) Compare the heights that the men jumped with the heights that the women jumped.

(2)

Q17. Make p the subject of the formula $y = 3p^2 - 4$

(3)