

COUNTDOWN TO YOUR FINAL MATHS EXAM ...

PART 6 (2018)



	Marks	Actual	  
Q1. Averages (Clip 26)	3		
Q2. Money problem	5		
Q3. Pictograms	6		
Q4. Solving equations/ Changing the subject (Clip 25)	4		
Q5. Averages (Clip 26)	3		
Q6. Averages from grouped data (Clip 28)	4		
Q7. Averages (Clip 26)	3		
Q8. Reverse mean (Clip 26)	4		
Q9. Reverse mean (Clip 26)	3		
Q10. Averages from a table (Clip 27)	5		
Q11. Averages (Clip 26)	4		
Q12. Averages (Clip 26)	2		
Q13. Proportional Reasoning /Forming equations	5		
Q14. Calculating profit	3		
Q15. Comparing distributions (Clip 26)	6		
Q16. Reverse mean (Clip 26)	3		
Q17. Averages from a diagram	5		
Q18. Solving equations	6		

Questions

Q1. 14 students did a history test. Here are the results.

Girls	3	8	2	4	3	4	4	6
Boys	3	6	3	3	1	4		

Adele says: "The range of the girls' marks is 1 more than the range of the boys' marks."

Is Adele right? You must show your working.



(3)

Q2. Mark works in a Maths equipment shop in a school. He sells calculators, rulers and protractors

Item	Price
Calculator	£2.50
Ruler	15p
Protractor	20p

The table below shows the number of calculators, rulers and protractors Mark sold this week.

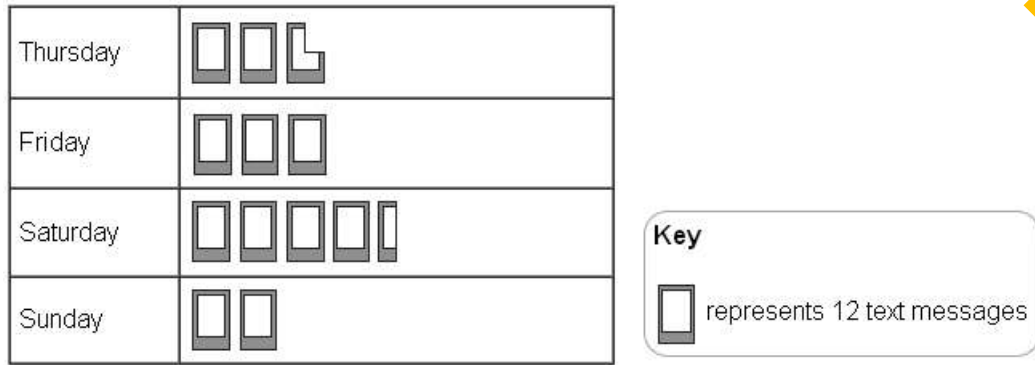
	Calculators	Rulers	Protractors
Monday	1	3	2
Tuesday	0	4	0
Wednesday	2	2	0
Thursday	4	0	3
Friday	3	2	2

Mark has a sales target of £28 per week.

Has Mark sold at least £28 of equipment this week? You must show all your working.

(5)

Q3. The pictogram shows information about the number of text messages Stephanie sent on each of 4 days last week.



(a) Write down the number of text messages Stephanie sent on Sunday.

(1)

Stephanie sent more text messages on Saturday than on Friday.

(b) How many more?

(2)

It costs Stephanie 8p to send a text message.

(c) Work out the total cost of the text messages she sent on Thursday.

(3)

Q4. (a) Solve $4(y - 7) = 13$

(2)

(b) Make t the subject of the formula $P = 4t - 3$

(2)

Q5. Liz is a vet. She writes down the type of each animal she treats one morning.

cat rabbit cat dog rabbit cat
 hamster dog dog cat rabbit dog
 dog rabbit dog dog cat dog

(a) Complete the frequency table.

Type of animal	Tally	Frequency
cat		
hamster		
rabbit		
dog		

(2)

(b) Write down the mode.

(1)

Q6. Bob asked each of 40 friends how many minutes they took to get to work.

The table shows some information about his results.

Time taken (m minutes)	Frequency
$0 < m \leq 10$	3
$10 < m \leq 20$	8
$20 < m \leq 30$	11
$30 < m \leq 40$	9
$40 < m \leq 50$	9

Work out an estimate for the mean time taken.

(4)

Q7. The stem and leaf diagram gives information about the numbers of tomatoes on 31 tomato plants.



Key: 5|7 = 57 tomatoes



(a) Work out the median.

(1)

(b) Work out the interquartile range.

(2)

Q8. Tina went on a cycling holiday.

For the first 5 days, Tina cycled a mean distance of 55 kilometres per day.

On the sixth day, Tina cycled 50 kilometres.

Andy says: "for all 6 days, the mean distance that Tina cycled per day was 52.5 kilometres".

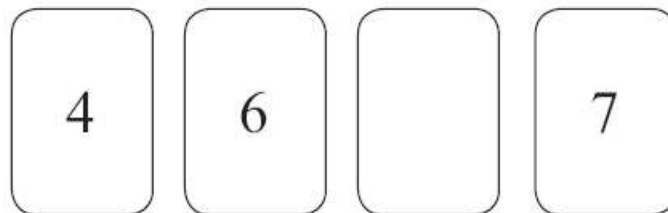
Is Andy correct?

You must show your working.

(4)

Q9. Here are four number cards.

One of the cards is turned over so you cannot see the number on it.



The mean of the four numbers is 6

Work out the number you **cannot** see.

(3)

Q10. Chris works in a cafe. At noon one day he records the number of customers sitting at each table in the cafe. Here are his results.

Number of customers sitting at a table	Number of tables
0	4
1	5
2	10
3	7
4	3
5	1

(a) Work out the total number of tables in the cafe.

(1)

(b) Work out the total number of customers sitting at tables in the cafe.

(2)

(c) Work out the mean number of customers sitting at a table.

(2)

Q11. There are two trays of plants in a greenhouse.

The first tray of plants was given fertiliser.

The second tray of plants was not given fertiliser.

On Monday the heights of the plants were measured in centimetres.

The boxes show some information about the heights of the plants.

Heights of the plants given fertiliser							
22	29	30	35	37	40	44	47
48	48	54	56	59	66	72	

Information about the heights of plants not given fertiliser			
Smallest	18	Lower quartile	26
Largest	64	Upper quartile	47
Median	44		

Compare the distribution of the heights of the plants given fertiliser to the distribution of the heights of the plants not given fertiliser.



(4)

Q12. Ken is x years old.
 Liam is $(x + 4)$ years old.
 Tina is $3x$ years old.



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

(2)

Q13. Amber earns £7 for each hour she works from Monday to Friday.
 She earns £10 for each hour she works on Saturday.

One week Amber worked for 4 hours on Saturday.
 That week she earned a total of £180

(a) How many hours did Amber work that week?

(3)

Chris works for 7 hours each day from Monday to Friday.
 He earns e pounds for each hour he works.

(b) Write down an expression, in terms of e , for the total amount, in pounds, that Chris earns from Monday to Friday.

Give your answer in its simplest form.

(2)

Q14. Jill buys a toy, a doll and a game at a school fair. She then sells all three items.
 The table gives some information about these items.

Item	Buys	Sells	Profit
Toy	£2.00	£3.00	£1.00
Doll	£3.00	£	£1.50
Game	£5.00	£6.40	£
		Total profit	£



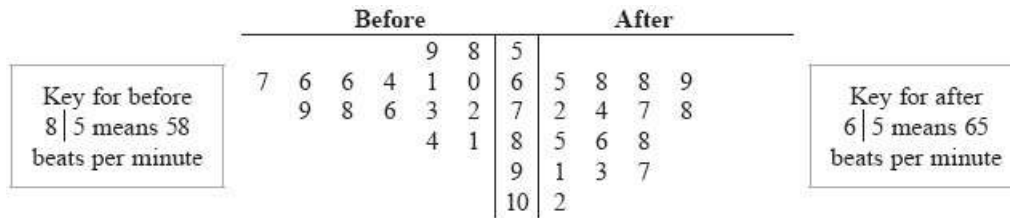
Complete the table.

(3)

Q15. Zoe recorded the heart rates, in beats per minute, of each of 15 people.

Zoe then asked the 15 people to walk up some stairs.
She recorded their heart rates again.

She showed her results in a back-to-back stem and leaf diagram.



Compare the heart rates of the people before they walked up the stairs with their heart rates after they walked up the stairs.

(6)

Q16. Alan works in a gym. One week he recorded the number of people who visited the gym each day.

For Monday to Friday, the mean number of people per day was 98

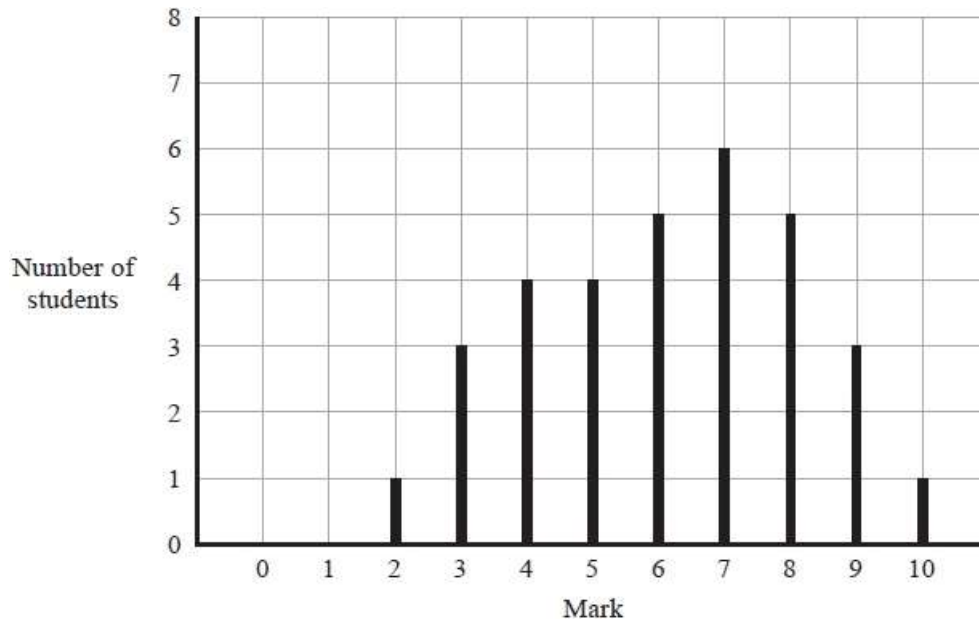
For the whole week, the mean number of people per day was 114

On Saturday, 162 people visited the gym.

Work out the number of people who visited the gym on Sunday.

(3)

Q17. The graph shows information about the test marks of Mr Gilbert's science class.



(a) Work out the number of students who did the test.

(2)

(b) Write down the mode.

(1)

(c) Work out the range of the test marks.

(2)

Q18.(a) Solve $3(2p - 5) = 21$

(3)

(b) Solve $9x - 11 = 5x + 7$

(3)