Cycle 1 mock exam preparation: securing a grade 4, aiming for a grade 5 (foundation)

W/C Monday 29 September

Revision timetable:

	Monday 29 September	Tuesday 30 September	Wesdnesday 1 October	Thursday 2 October	Friday 3 October	Saturday 4 October	Sunday 5 October
Securing a grade 4: foundation	• Mean, median, mode and range from a list	• Pictograms	• Scatter graphs	• Bar charts	• Fraction arithmetic	• Fractions of amounts	• Fractions – worded problems

Notes

- 20 marks = 20 minutes (time yourself!)
- Show all of your working out
- Use the link to CorbettMaths to look at videos to support

Monday 29 September

Mode – the number that appears the most

Median – the number in the middle (when the numbers are in order)

Mean – the average of all the numbers (add together and divide by how many numbers there are)

Range – the biggest subtract the smallest

1. Here is a list of 10 numbers.

2 3 4 4 4 5 6 6 7 7

a) Calculate the range

(1 mark)

b) What is the mode?

(1 mark)

c) What is the median?

(2 marks)

d) What is the mean?

(2 marks)

2. Here is a list of 5 numbers.

4 6 9 10 11

a) Calculate the range

(1 mark)

b) What is the mode?

(1 mark)

c) What is the median?

(2 marks)

d) What is the mean?

(2 marks)

3. Here are six cards. Each card has a number on it.

19	7	11	8	15	15

a) Work out the range of the numbers on the cards

(1 mark)

b) Work out the mean of the numbers on the cards

(2 mark)

4. Here are seven cards. Each card has a number on it.

12	5	10	18	12	11	9

a) Work out the range of the numbers on the cards

(1 mark)

b) Work out the median of the numbers on the cards

(2 marks)

c) Work out the mean of the numbers on the cards

(2 marks)

(2 marks)

Tuesday 30 September

1. The pictogram shows the amount of money raised by students in some tutor groups at a school.

Key: ◯ = £10

Tutor group		Raised
S	◯◯◯◯◯◯	
T	◯◯◯	
E		£45
P	◯◯◯◗	

(a) Complete the raised column.

(2)

(b) Complete the pictogram for tutor group E.

(2)

(c) How much money was raised altogether?

£.....

(1)

2. Erin is selling cupcakes to raise money for charity.
The pictogram shows some information about the cupcakes sold.

Chocolate	◯◯◯◯
Coffee	◯◿
Lemon	◯◯◗
Strawberry	◯◯◯

Key: ◯ represents 4 cupcakes

(a) What was the least popular flavour of cupcake?

(1 mark)

(b) How many chocolate cupcakes were sold?

(1 mark)

(c) How many more strawberry than lemon cupcakes were sold?

(2 marks)

2 The incomplete table show information about the number of ice creams sold by a shop last week.

	Tally	Frequency
Monday	𝍸 |	6
Tuesday	𝍸 ||||	
Wednesday	𝍸 𝍸	
Thursday	𝍸 ||	
Friday		11

(a) Complete the tally chart.

(b) Complete the pictogram to represent the ice cream sales

Monday	◐◐◐
Tuesday	
Wednesday	
Thursday	
Friday	

Key: ◐ Represents 2 ice creams

(4 marks)

4.

The table shows information about the number of phone calls received by some students last week.

Student	Frequency
Patrick	12
Andrew	20
David	6
George	9

Show this information on a pictogram.

Patrick	
Andrew	
David	
George	

Key:

(3 marks)

Wednesday 1 October

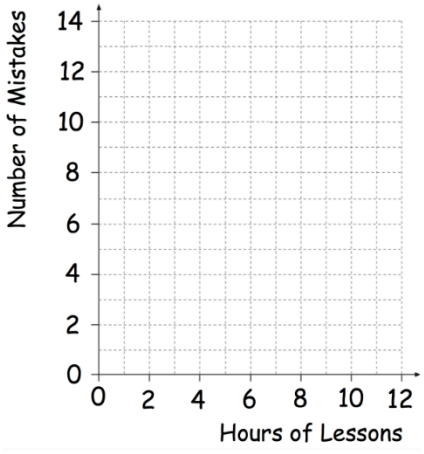
Eight students sat a music test.

The table shows information about how many hours of lessons they had and the number of mistakes made in the test.

Hours of lessons	8	2	5	3	10	7	11	6
Number of mistakes	8	12	7	9	2	6	1	5

(a) Show this information on the scatter graph below.

(2)



A student is awarded a prize is they make less than 3 mistakes.

(b) How many students are awarded a prize?

.....

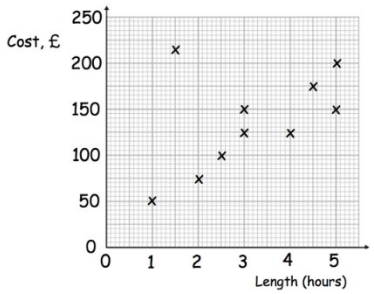
(1)

(c) Complete the sentence below.

Generally the more hours of lessons, the ..... mistakes are made.

(1)

Mr Hamill is a plumber.
The scatter graph shows the cost and length of his last 10 jobs.



Circle the outlier.

(1)

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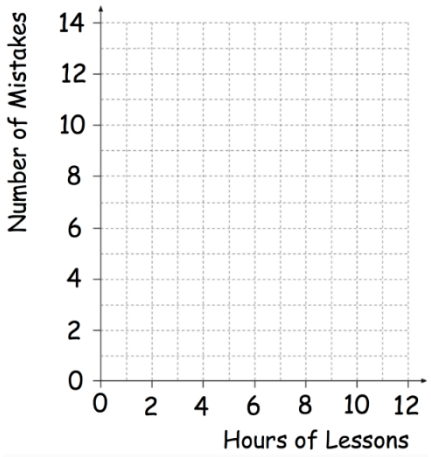
(2)



A student is awarded a prize is they make less than 3 mistakes.

(b) How many students are awarded a prize?

.....

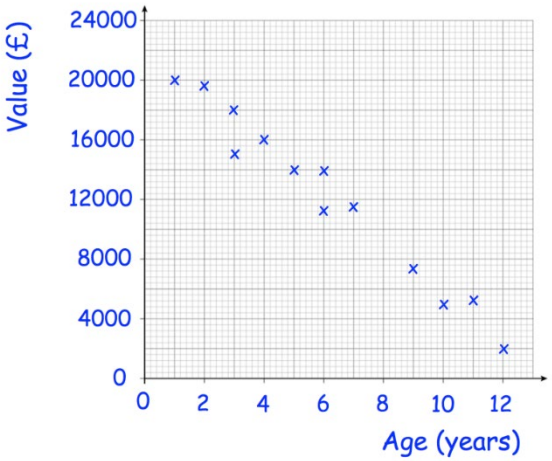
(1)

(c) Complete the sentence below.

Generally the more hours of lessons, the ..... mistakes are made.

(1)

The scatter graph shows the age and value of some cars.



Using the scatter graph, find an estimate for the value of an 8 year old car.

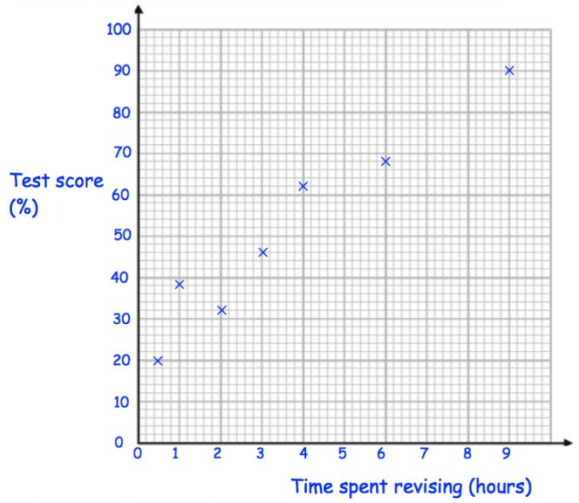
£.....

(2)

The table shows the time spent revising and the test scores of ten students.

Time spent revising (hours)	9	0.5	1	4	6	2	3	7	5	8
Test result (%)	90	20	38	62	68	32	46	70	60	86

The first seven points have been plotted on this scatter diagram.



(a) Complete the scatter diagram.

(1)

(b) Describe the relationship shown in the scatter diagram.

.....

.....

(1)

(c) Draw a line of best fit on your scatter diagram.

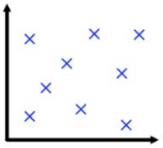
(1)

(d) Another student has spent 4.5 hours revising.
Use your line of best fit to estimate their test result.

.....%

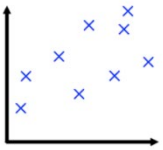
(1)

Match each scatter graph to the best description of the type and strength of correlation.



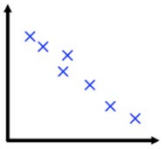
Strong positive correlation

Weak positive correlation



No correlation

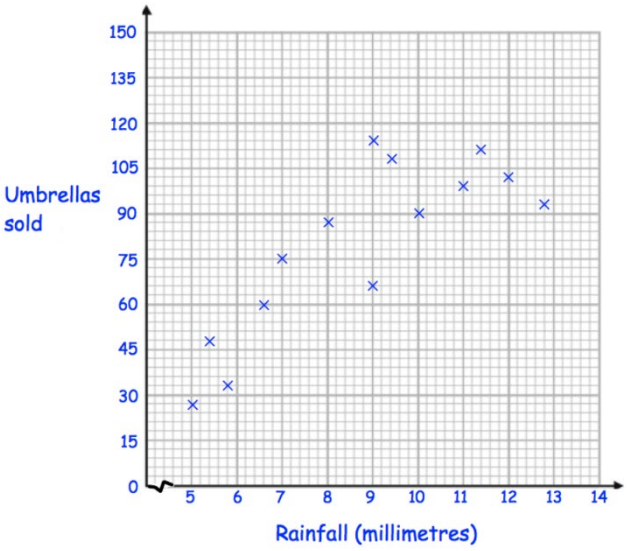
Weak negative correlation



Strong negative correlation

A shop sells umbrellas.

The scatter graph shows information about the number of umbrellas sold each week and the rainfall that week, in millimetres.



(a) Describe the relationship between the rainfall and umbrellas sold.

.....

.....

(1)

(b) What is the most number of umbrellas sold in one week?

.....

(1)

(c) What is the greatest amount of rainfall in one week?

.....

(1)

(d) In how many weeks did the shop sell over 105 umbrellas?

.....

(1)

In another week, there was 6mm of rain.

(e) Estimate the number of umbrellas sold.

.....

(2)

(f) Explain why it may **not** be appropriate to use your line of best fit to estimate the number of umbrellas sold in a week with 25mm of rainfall.

.....

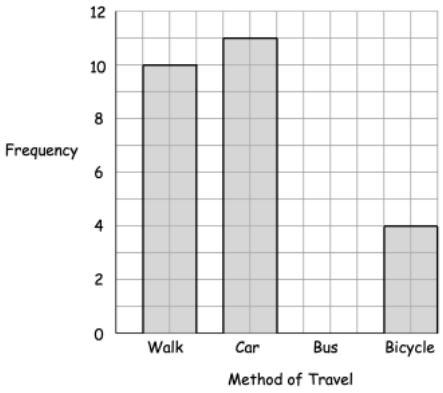
.....

(1)

DIXONS ACADEMIES TRUST

Thursday 2 October

1. A teacher asked her students how they travel to school.
The bar chart shows some of her results.



6 students travelled by bus.

(a) Complete the bar chart with this information.

(1)

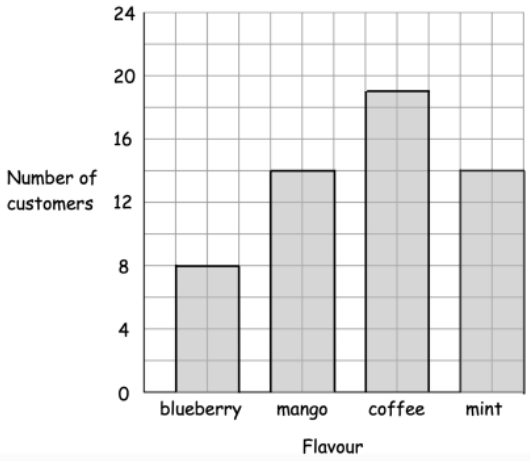
(b) How many students walked to school?

.....

(1)

2. Conan owns a cake shop.
He trials four new flavours of cheesecake: blueberry, mango, coffee and mint.

Conan asked a group of customers to vote for their favourite flavour.



(a) What is the least popular flavour?

.....

(1)

(b) Which two flavours had the same number of votes?

..... and .....

(1)

(c) How many customers did Conan survey?

.....

(2)

3. James asked his friends their favourite colour.

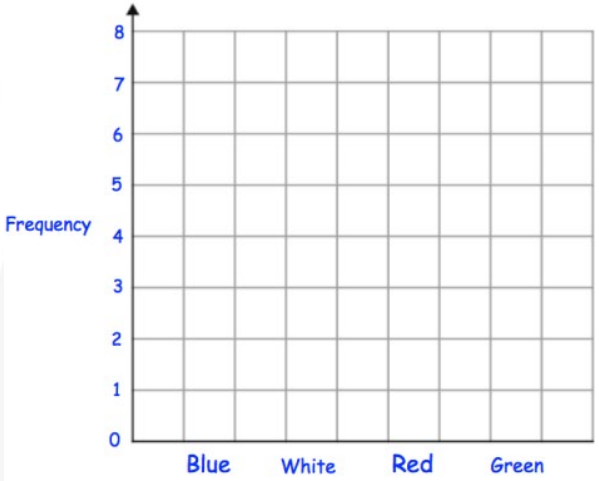
Green	Blue	Red	Green	Blue	Blue
Green	Red	Blue	White	Blue	Green
Red	Green	Blue	Red	Blue	Green

(a) Complete the frequency table for his results.

Colour	Tally	Frequency
Blue		
White		
Red		
Green		

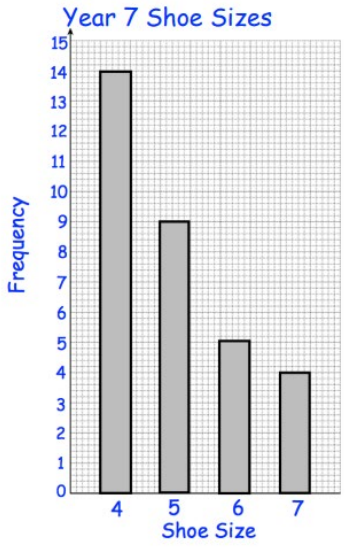
(2)

(b) On the grid, draw a bar chart to show this information.



(2)

4. Here are the shoe sizes for Year 7.



(b) How many Year 7's wear a size 5?

.....

(1)

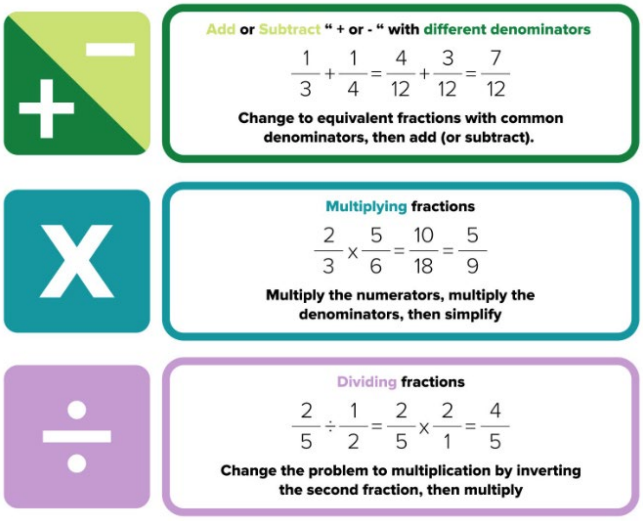
(c) How many more Year 7's than Year 6's wear a size 7?

.....

(1)

(2 marks)

Friday 3 October



1. Work out $\frac{1}{10}+\frac{3}{5}$

(2 marks)

2. (a) Work out $\frac{2}{3}-\frac{1}{4}$

(2 marks)

(b) Work out $\frac{3}{4}\times\frac{4}{9}$

Give your answer as a fraction in its simplest form.

(2 marks)

3. Work out $\frac{3}{4}\times\frac{5}{6}$

(2 marks)

4. (a) Work out $\frac{1}{5}+\frac{3}{4}$

(2 marks)

(b) Work out $\frac{4}{5}-\frac{1}{3}$

(2 marks)

5. (a) Work out $\frac{4}{9}+\frac{3}{5}$

(2 marks)

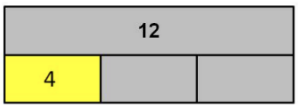
(b) Work out $\frac{3}{5}\div\frac{3}{8}$

(2 marks)

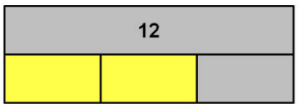
6. Work out $\frac{1}{7}\div\frac{3}{4}$

Saturday 4 October

$\frac{1}{3}$ of 12 $= 12 \div 3 = 4$



$\frac{2}{3}$ of 12 $= 4 \times 2 = 8$



1. Find $\frac{1}{3}$ of 48

(1 mark)

2. Work out $\frac{3}{4}$ of 180

(2 marks)

3. Work out $\frac{2}{5}$ of 140

(2 marks)

4. Find $\frac{2}{3}$ of 240

(2 marks)

5. Find $\frac{5}{6}$ of 72

(2 marks)

6. Work out the difference between 25 and $\frac{2}{9}$ of 81

(3 marks)

7. Work out the difference between $\frac{3}{8}$ of 32 and $\frac{2}{5}$ of 40

(3 marks)

8. There are 924 people in a theatre.

383 of the people are men.
356 of the people are women.

$\frac{2}{5}$ of the children are boys.

Work out how many girls are in the theatre.

(4 marks)

(3 marks)

Sunday 5 October

1. Increase £800 by $\frac{1}{4}$

(2 marks)

2. Decrease 150kg by $\frac{1}{5}$

(2 marks)

3. The normal price of a computer game is £40

   The price is reduced by $\frac{1}{5}$ in a sale.

   Work out the price of the computer game in the sale.

(3 marks)

4. There are 1100 students at a school.

   540 students are girls, the rest are boys.

   $\frac{1}{10}$ of the girls are left handed.

   $\frac{1}{8}$ of the boys are left handed.

   Work out the number of left handed students in the school.

(4 marks)

5. Harry has 50 sweets.

   He gives $\frac{2}{5}$ of the sweets to Sandra.

   He gives $\frac{3}{10}$ of the sweets to Jamie.

   Harry keeps the rest of the sweets for himself.
   Work out how many sweets Harry keeps.

(2 marks)

6. The normal price of a train ticket from Ashford to London is £34.20

   Ross gets $\frac{1}{3}$ off the price of his train ticket

   Work out how much Ross pays for his ticket.

(2 marks)

5. Stan has an income of £2000 a month.

   He spends $\frac{2}{5}$ of his income on rent.

   He spends $\frac{3}{20}$ of his income on bills.

   He spends $\frac{1}{10}$ of his income on food.

   Stan saves the rest of his income.

   Work out how much Stan saves each month.

(4 marks)