

SQA Past paper questions

2024 - Paper 1 - Question 5

The number of films Megan downloaded each month for a year is shown.

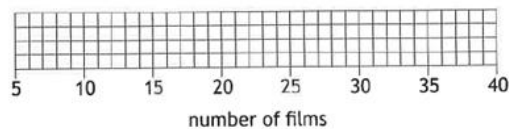
34 19 22 10 13 38 9 12 26 7 19 21



(a) (i) For this data, calculate:

- the median
- the lower quartile
- the upper quartile. 2

(ii) Construct a boxplot for this data. 2



(b) (i) Calculate the interquartile range for the number of films Megan downloaded. 1

Tommy also recorded the number of films he downloaded each month.

The interquartile range for the number of films Tommy downloaded is 10.

(ii) Make one valid comment comparing the number of films Megan and Tommy downloaded. 1

Click [here](#) for video solution. 

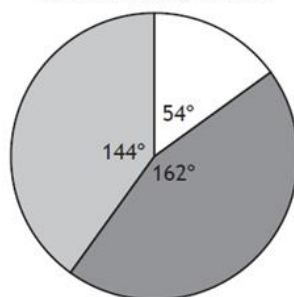
2024 - Paper 1 - Question 10

In 2022 and 2023 all S4 pupils at Lowgrove Academy achieved a Numeracy qualification.

The results for S4 pupils in 2022 are shown in the pie chart.



2022 Numeracy results



Key

National 3 ☐

National 4 ☒

National 5 ☐

Qualification	Number of pupils
National 3	18
National 4	52
National 5	50

The results for S4 pupils in 2023 are shown in the table.

Determine if there has been an increase in the proportion of pupils achieving National 5 Numeracy.

Use your working to justify your answer. 3

Click [here](#) for video solution. 

2023 - Paper 1 - Question 11

A survey was conducted into favourite pie fillings.

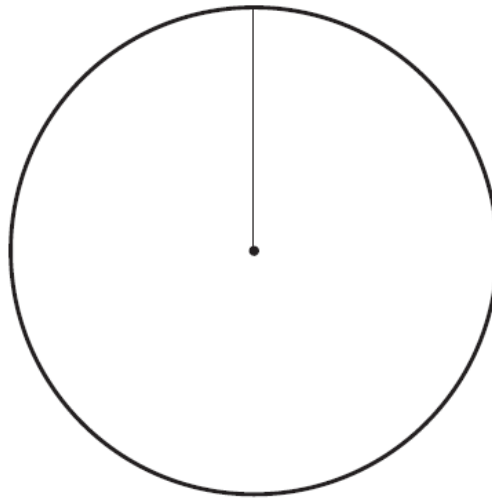


The results were:

- 80 people for apple
- 40 people for cherry
- 60 people for lemon.

Construct a pie chart to illustrate this information. 3

Favourite pie fillings



Click [here](#) for video solution. 

2023 - Paper 2 - Questions 7(b) - (d)

Dave records the number of words per minute that he typed during a 14-minute period.

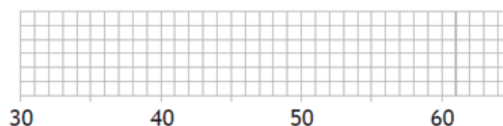


47 39 51 49 42 44 47 54 48 37 41 46 37 44

(b) For this data, calculate:

- the median
- the lower quartile
- the upper quartile. 2

(c) Construct a boxplot for this set of data. 2



(d) (i) Calculate the interquartile range for the number of words Dave can type per minute. 1

Lynn works in the same office as Dave.

Lynn also records the number of words per minute that she can type.

The interquartile range for the number of words that Lynn can type per minute is 5.

(ii) Make one valid comment comparing the number of words Dave and Lynn can type per minute. 1

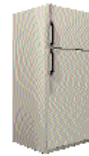
Click [here](#) for video solution. 

2022 - Paper 1 - Question 3

The temperature, in degrees Celsius, of a restaurant fridge is recorded each day.

The temperatures over a 13 day period were:

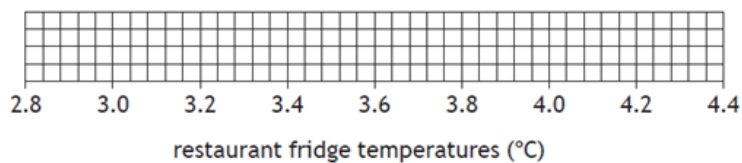
3.2 4.2 3.3 3.6 3.7 3.2 4.2
3.3 3.4 3.6 3.2 4.1 2.9



(a) For this data, calculate:

- the median • the lower quartile • the upper quartile. 2

(b) Construct a box plot for this set of data. 2



(c) Calculate the interquartile range for this set of data. 1

(d) The temperatures of a café fridge were also recorded for the same 13 day period.

The interquartile range of these temperatures was 0.9 degrees Celsius.

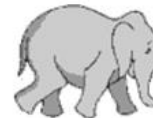
Make one valid comment comparing the temperatures of these two fridges. 1

Click [here](#) for video solution. 

2021 - Paper 1 - Question 2

African elephants continue to grow for the duration of their lives.

The table below shows the age of a sample of African elephants and their shoulder heights.

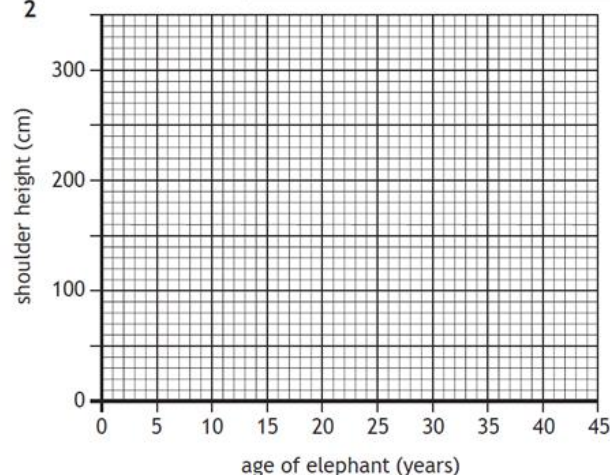


(a) On the grid below draw a scattergraph to show this data. 2

Age of elephant (years)	12	17	28	35	43
Shoulder height (cm)	230	250	270	275	300

(b) Draw a line of best fit on your scattergraph. 1

(c) Use your line of best fit to estimate the age of an African elephant that is 260 cm tall. 1



Click [here](#) for video solution. 

2021 - Paper 1 - Question 15

Stuart's monthly budget

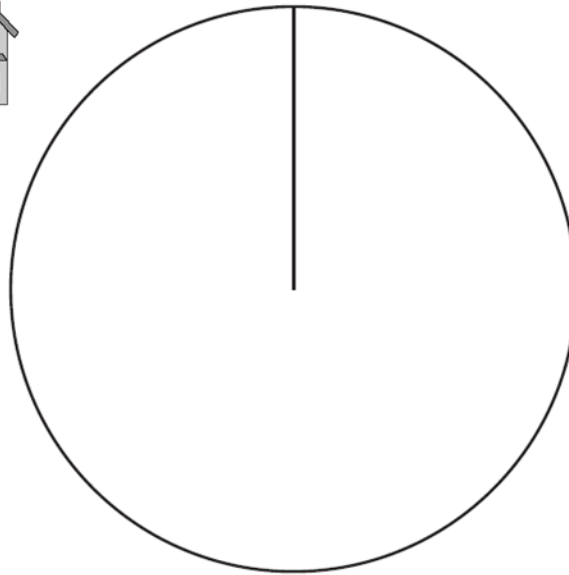
Stuart's monthly budget is

- £660 for rent and bills
- £450 for food and socialising
- £90 for savings.



Construct a pie chart to show this information.

3

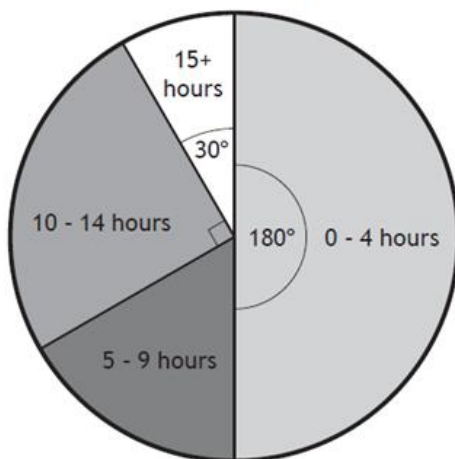


Click [here](#) for video solution.



2019 - Paper 1 - Question 3

The pie chart shows the number of hours overtime that 72 employees of a supermarket worked during one month.



- (a) Calculate how many employees worked 15+ hours overtime. 1
- (b) Calculate the probability that an employee chosen at random worked 9 or less hours overtime. 2

Click [here](#) for video solution.



2019 - Paper 1 - Question 7

An airline records the number of passengers who fail to turn up for their flights each month.

The numbers for 2017 are

25, 14, 32, 29, 20, 43, 17, 20, 38, 27, 49, 23.



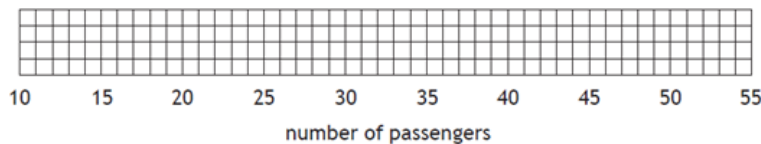
(a) For this data, calculate

- the median
- the lower quartile
- the upper quartile.

2

(b) Construct a boxplot for this set of data.

2



(c) Calculate the interquartile range for this set of data.

1

In 2016, the interquartile range for the number of passengers who failed to turn up for their flights was 17.

(d) Make one valid comment comparing the number of passengers who failed to turn up for their flights in these two years.

1

Click [here](#) for video solution. 

2019 - Paper 2 - Question 7(c)

The lengths and weights of 8 new-born babies are recorded in the table as shown.

Length (cm)	46	47	49	51	52	52	54	55
Weight (kg)	2.7	2.8	3.5	3.7	3.4	3.7	4.0	4.4

(i) On the grid draw a scatter graph to show this data.

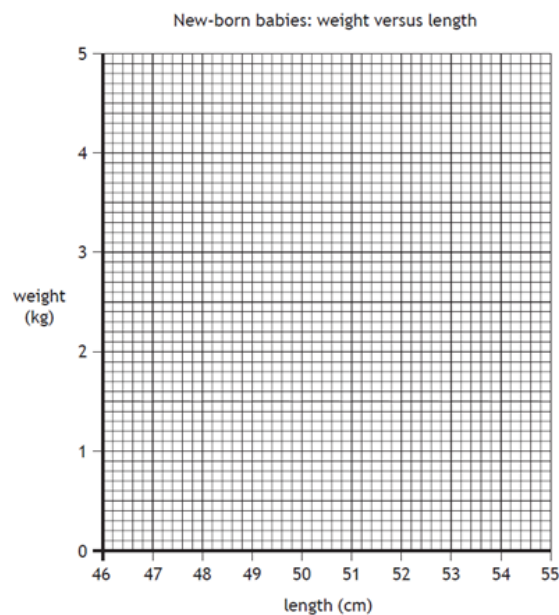
2

(ii) Draw a line of best fit on your scatter graph.

1

(iii) Use your line of best fit to estimate the weight of a baby who was 50 cm when born.

1



Click [here](#) for video solution. 

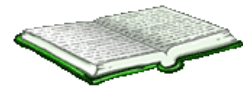
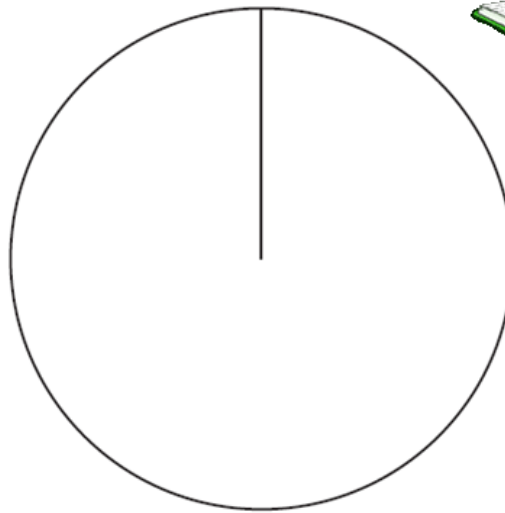
2019 - Paper 2 - Question 9(a) Time spent on each task

David is writing his new book.

He spends

- 210 hours on research
- 96 hours in meetings
- 234 hours writing the book.

Construct a pie chart to illustrate this information. 3



Click [here](#) for video solution. 

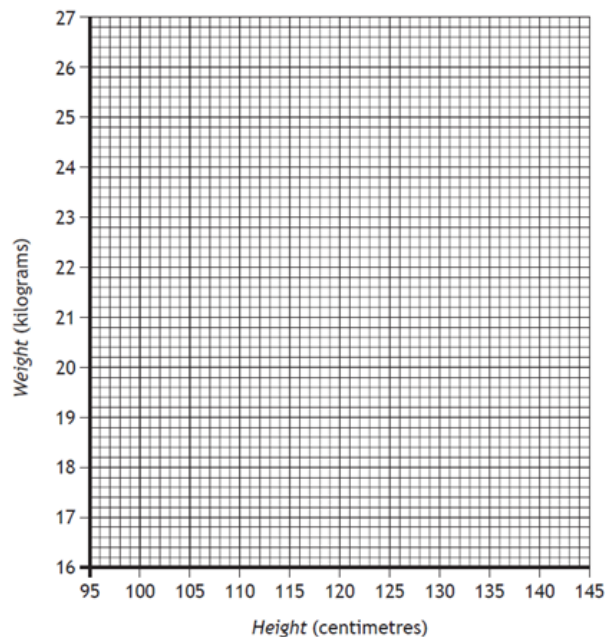
2018 - Paper 1 - Question 3

The heights and weights of 8 children aged six are recorded in the table below.

Height in centimetres	104	107	120	124	99	127	104	130
Weight in kilograms	18	19	24	22	17	25	19	24



- (a) On the grid below draw a scattergraph to show this data. 2
- (b) Draw a line of best fit on the scattergraph. 1
- (c) Use your line of best fit to estimate the height of a child who weighs 20 kilograms. 1



Click [here](#) for video solution. 

2018 - Paper 2 - Question 2

The number of podcasts Omar downloaded each month for a year is shown in the table below.



12	34	19	22	9	13
21	19	5	26	10	28

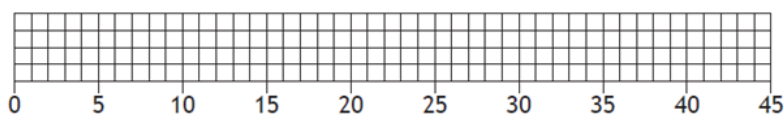
(a) For this data, calculate:

the median

the lower quartile

the upper quartile. 2

(b) Construct a boxplot for this data. 2



Click [here](#) for video solution. 

2017 - Paper 1 - Question 3



Scott is a farmer.

He records the weight of a calf from birth.

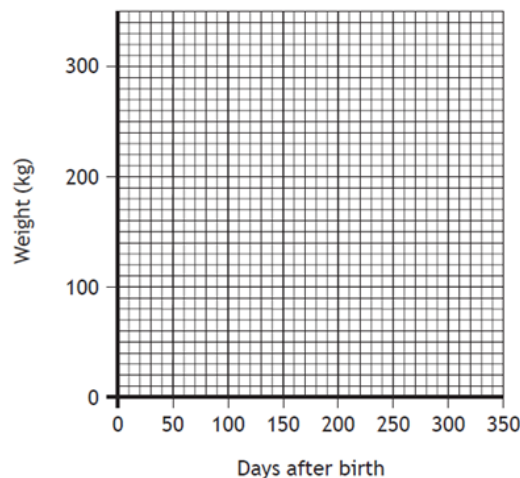
The weight of his calf is shown in the table.

Days after birth	0	60	120	160	200	260
Weight (kg)	40	110	130	175	220	275

(a) On the grid below
draw a scatter graph
to show this data. 2

(b) Draw a line of best
fit on the diagram
above. 1

(c) Use your line of
best fit to
estimate the
age of this
calf in days
when it
weighed
240 kilograms. 1



Click [here](#) for video solution. 

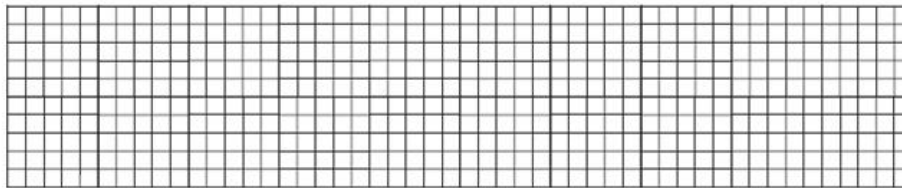
2017 - Paper 2 - Question 4

The back to back stem and leaf diagram shows data gathered at a gymnasium before and after walking on a treadmill.

- (a) State the most common heart rate (bpm) after walking on the treadmill. **1**

- (b) What is the difference in the median heart rates (bpm) before and after walking on the treadmill? **2**

- (c) Construct a boxplot to show the heart rate data after exercise. **4**



Heart rate data (beats per minute (bpm))

Before

After

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

n = 15

n = 15



$$7|8 = 78$$

Click [here](#) for video solution. 