

Mock Grade 4

Maths

Booklet 4

Paper 3H
Calculator

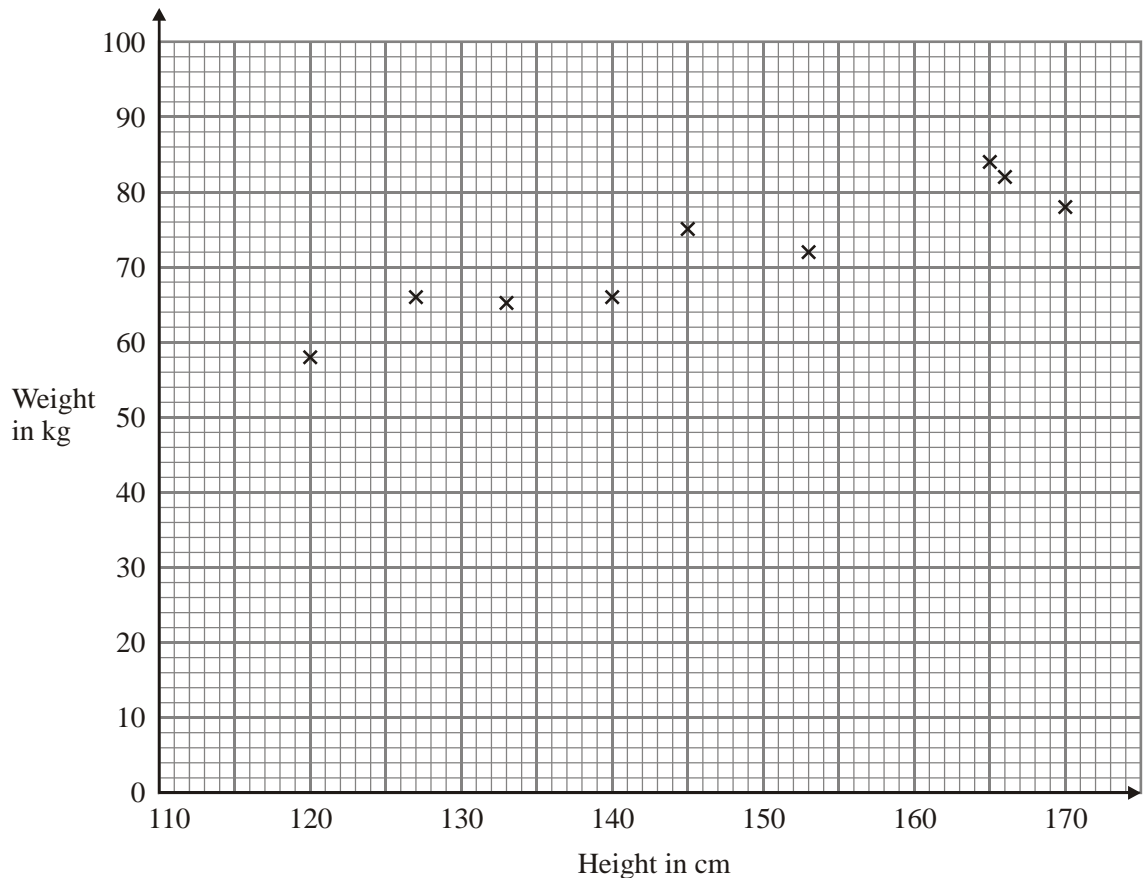
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Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

- 1** The scatter graph shows information about the height and the weight for nine students.



- (a) What type of correlation does this scatter graph show?

.....
(1)

The weight of another student is 80 kg.

- (b) Estimate the height of this student.

..... cm
(2)

Alfie says,
“My weight is 40 kg and I'm 150 cm, so I am an outlier”

(c) Is Alfie correct?
You must give a reason for your answer.

.....
.....
.....
(1)

(Total for Question 1 is 4 marks)

2 Natalie makes potato cakes in a restaurant.

She mixes potato, cheese and onion so that

weight of potato : weight of cheese : weight of onion = 11 : 3 : 1

Natalie needs to make 8400 g of potato cakes.

Cheese costs £2.50 for 300 g.

Work out the cost of the cheese needed to make 8400 g of potato cakes.

£.....

(Total for Question 2 is 4 marks)

3 (a) Write 8.3×10^7 as an ordinary number.

.....
(1)

(b) Write 0.00018 in standard form.

.....
(1)

(c) Work out $3.8 \times 10^5 + 6.3 \times 10^6$
Give your answer in standard form.

.....
(2)

(Total for Question 3 is 4 marks)

- 4** A water tank is empty.
Anil needs to fill the tank with 8100 litres of water.

Company **A** supplies water at a rate of 15 litres in 2 minute 40 seconds.

Company **B** supplies water at a rate of 1.4 gallons per minute.

1 gallon = 4.54 litres

Company **A** would take more time to fill the tank than Company **B** would take to fill the tank.

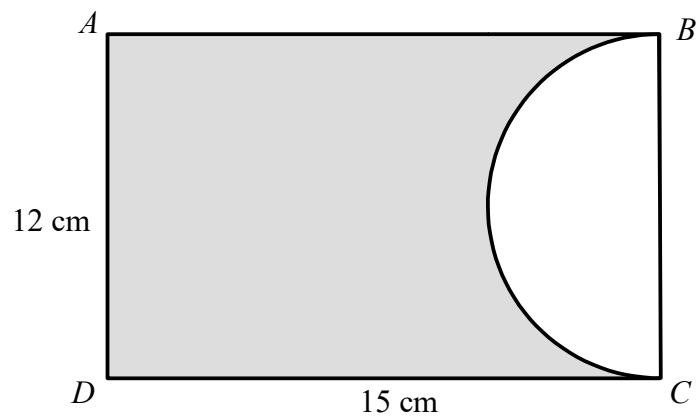
How much more time?

Give your answer in minutes correct to the nearest minute.

..... minutes

(Total for Question 4 is 4 marks)

- 5 The diagram shows a rectangle, ABCD, and a semi circle.
BC is the diameter of a semi circle.



Calculate the percentage of the area of the rectangle that is shaded.
Give your answer correct to 1 decimal place.

..... cm²

(Total for Question 5 is 4 marks)

6 Asif is going on holiday to Turkey.

The exchange rate is $\text{£}1 = 4.1561$ lira.

Asif changes $\text{£}472$ to lira.

- (a) Work out how many lira he should get.
Give your answer to the nearest lira.

..... lira
(2)

Asif sees a pair of shoes in Turkey.
The shoes cost 560 lira.

Asif does not have a calculator.
He uses $\text{£}10 = 40$ lira to work out the approximate cost of the shoes in pounds.

- (b) Use $\text{£}10 = 40$ lira to show that the approximate cost of the shoes is $\text{£}140$

(2)

- (c) Is using $\text{£}10 = 40$ lira instead of using $\text{£}1 = 4.1561$ lira a sensible start to Asif's method to work out the cost of the shoes in pounds?

You must give a reason for your answer.

.....
.....
(1)

(Total for Question 6 is 5 marks)

7 Here are the first five terms of a geometric sequence.

$$1 \quad -3 \quad 9 \quad -27 \quad 81$$

(a) Find the 8th term of this sequence.

.....
(1)

The first three terms of a different geometric sequence are

$$a \quad 2a^2 \quad 4a^3$$

(b) Show that the 5th term of this sequence is $16a^5$

(2)

Given that the 3rd term is 9.5

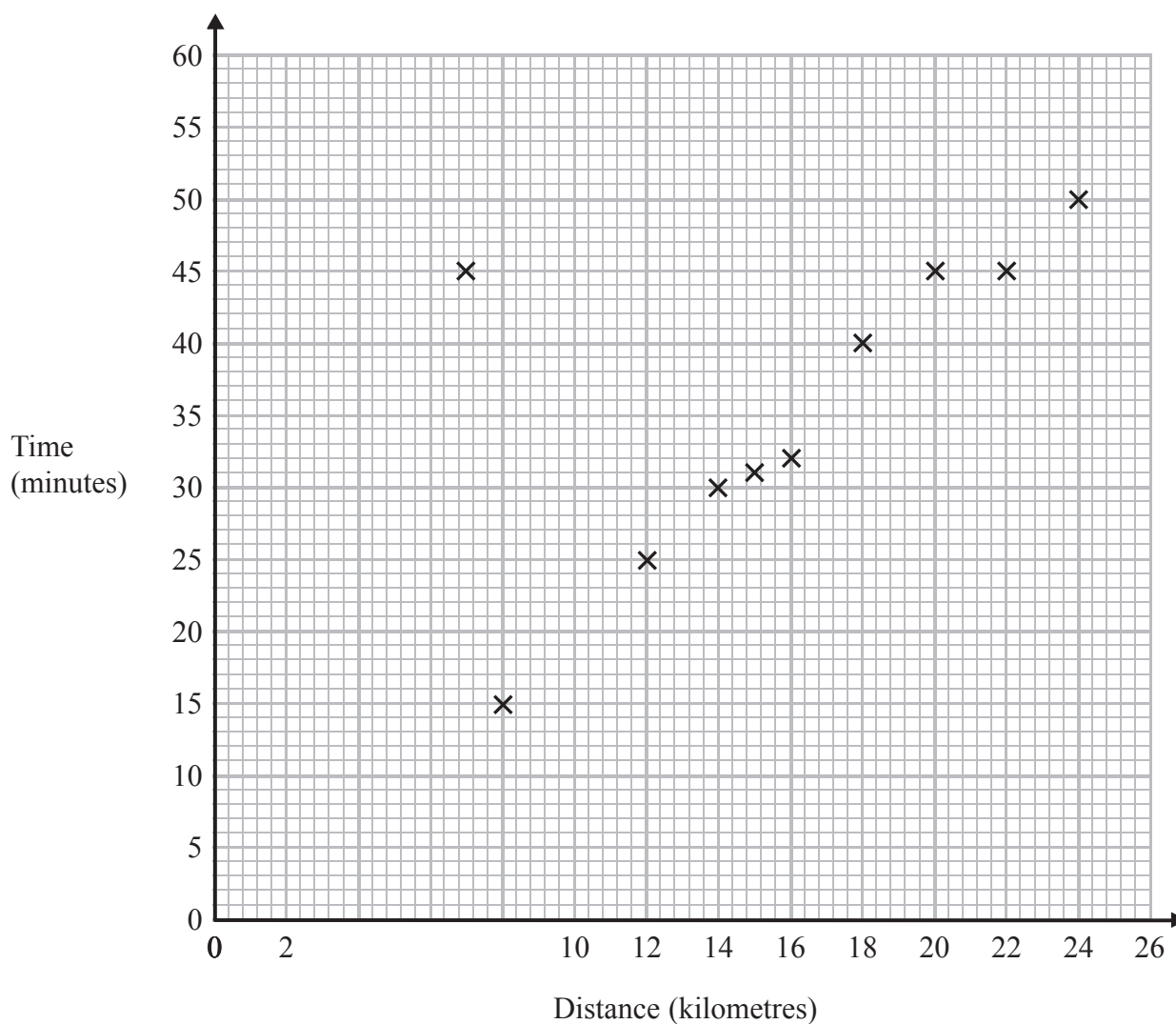
(c) find the value of a .

.....
(3)

(Total for Question 7 is 6 marks)

8 A delivery driver records for each delivery the distance he drives and the time taken.

The scatter graph shows this information.



For another delivery he drives 22 kilometres and takes 50 minutes.

(a) Show this information on the scatter graph.

(1)

(b) What type of correlation does the scatter graph show?

(1)

The driver has to drive a distance of 10 km for his next delivery.

(c) Estimate the time taken for this delivery.

..... minutes
(2)

During one of the deliveries, the driver was delayed by road works.

(d) Using the graph write down the time taken for this delivery.

..... minutes
(1)

(Total for Question 8 is 5 marks)