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Mathematics

Practice Papers Set 2

Paper 1 (Non Calculator)

Foundation Tier

Time: 1 hour 30 minutes

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided
– there may be more space than you need.
- **Calculators may not be used.**
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- You must **show all your working out.**

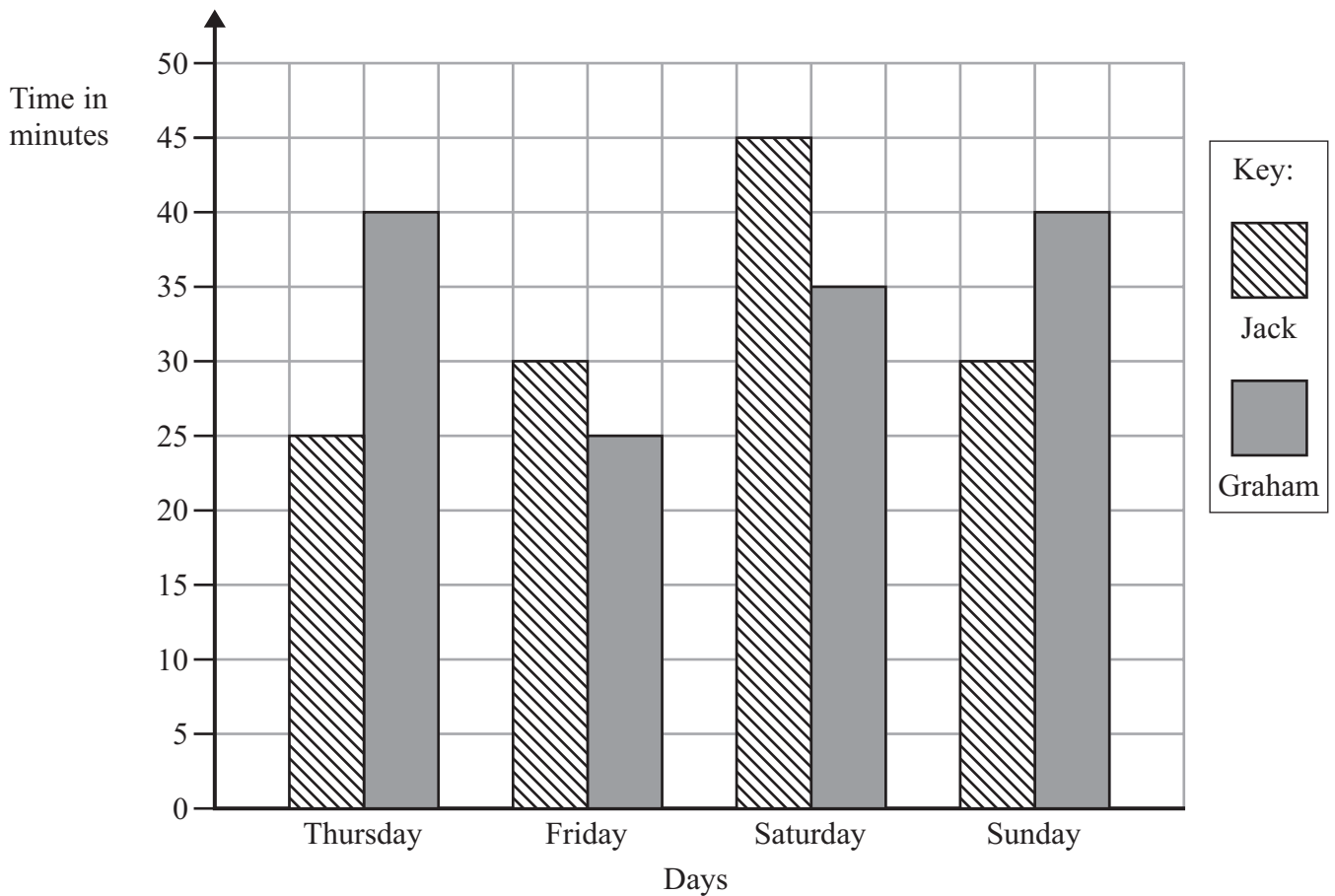
Information

- The total mark for this paper is 80
- The marks for **each** question are shown in brackets
– use this as a guide as to how much time to spend on each question.

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

- 1 Jack and Graham each recorded the time, in minutes, they each spent sending messages on Thursday, on Friday, on Saturday and on Sunday last week.



- (a) How many minutes did Graham spend sending messages on Saturday?

..... minutes
(1)

- (b) On which day did Jack spend exactly 25 minutes sending messages?

.....
(1)

(c) Who spent the greater total time sending messages?
You must show your working.

(3)

(Total for Question 1 is 5 marks)

2 Valentina is going to have a meal.
She can choose one starter and one main course from the menu.

| Menu | |
|----------------|--------------------|
| Starter | Main course |
| Soup | Beef |
| Prawns | Tuna |
| Mushrooms | Vegetarian |

Write down all the possible combinations Valentina can choose.

.....

.....

.....

(Total for Question 2 is 2 marks)

3 (a) Work out $15 \div 5 + 7$

.....
(1)

(b) Work out $2 + 7 \times 2$

.....
(1)

(c) Work out $-5 + -6$

.....
(1)

(d) Work out $14 - -3$

.....
(1)

(e) Add brackets () to make this statement correct.

$$12 - 2 \times 3 + 1 = 4$$

(1)

(f) Why does $\frac{1}{4} = \frac{2}{8}$?

(1)

(Total for Question 3 is 6 marks)

4 $a = 5$
 $b = 3$

Work out the value of $4a + 2b$

.....
(Total for Question 4 is 2 marks)

5 Here are four digits.

8 2 4 3

(a) (i) Use two of these digits to make the smallest possible two-digit number.

.....
(ii) Use three of these digits to make the three-digit number closest to 300

.....
(2)

Here are four different digits.

5 1 7 9

(b) (i) Put one digit in each box to make the largest total.
You may only use each digit once.

| | | | | |
|--|--|---|--|--|
| | | + | | |
|--|--|---|--|--|

(ii) Write down the total.

.....
(2)

(Total for Question 5 is 4 marks)

6 Aleena is planning a trip for people at her Youth Club.

Here are the costs for the trip.

| | |
|-------------|----------------|
| Transport | £230 |
| Insurance | £50 |
| Other costs | £30 |
| Entry fee | £14 per person |

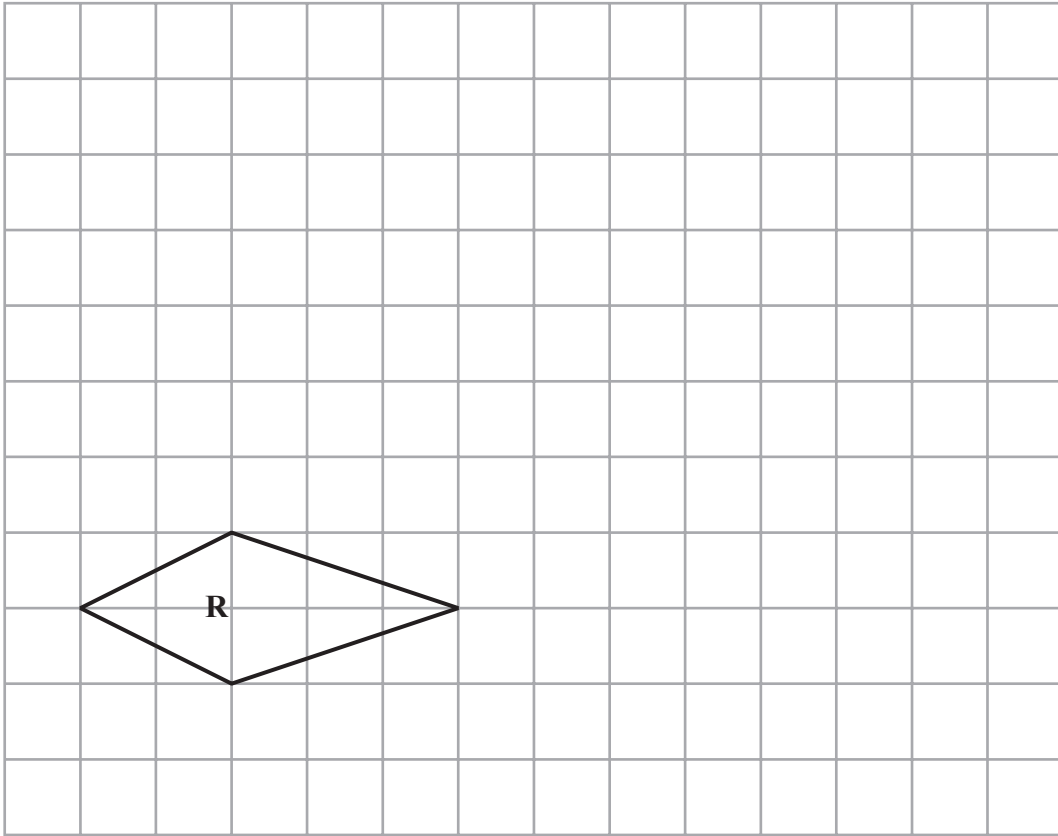
Aleena charges £18 per ticket for the trip.

She sells 100 tickets.

Is there enough money from the ticket sales for Aleena to pay all the costs for the trip?
You must show your working.

(Total for Question 6 is 4 marks)

7



On the grid, draw an enlargement of shape **R** with a scale factor of 2

(Total for Question 7 is 2 marks)

8 Write these numbers in order of size.
Start with the smallest number.

0.6 $\frac{2}{3}$ 65% 0.606

(Total for Question 8 is 2 marks)

9 On Monday Ravi drives for 4 hours.
His average speed is 30 mph.

(a) How far does Ravi drive on Monday?

..... miles
(2)

On Tuesday Ravi drives 200 km.

5 miles = 8 kilometres.

(b) On which day did Ravi drive further?

(3)

(Total for Question 9 is 5 marks)

10 (a) Solve $\frac{n}{7} = 2$

.....
(1)

(b) Solve $3g + 4 = 19$

.....
(2)

(Total for Question 10 is 3 marks)

11 (a) Simplify $b + b + b + b$

.....
(1)

(b) Simplify $8n - 3n$

.....
(1)

(c) Simplify $3 \times c \times d$

.....
(1)

(d) Simplify $3x + 7y + 2x - y$

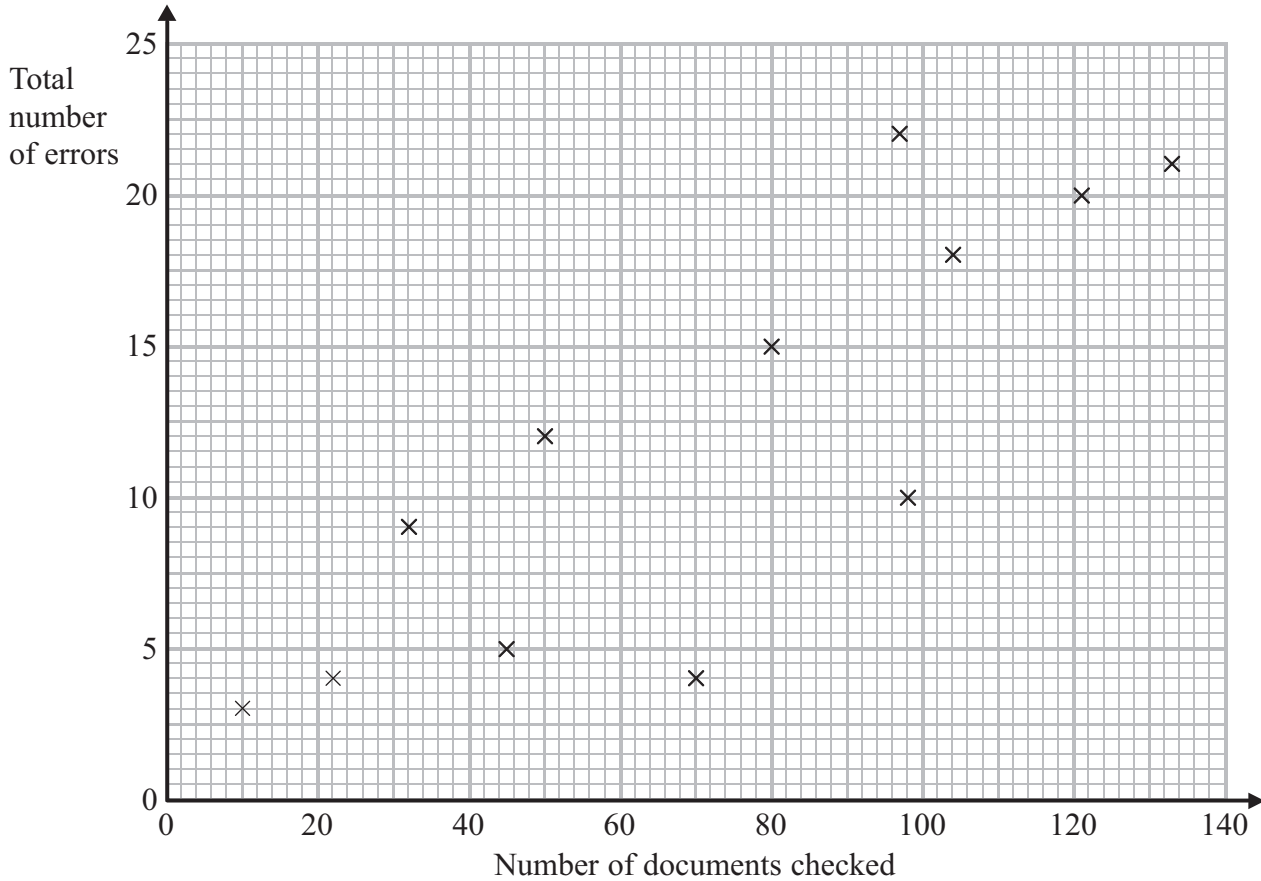
.....
(2)

(Total for Question 11 is 5 marks)

12 A publisher checks documents for errors.

He records the number of documents that are checked each day.
He also records the total number of errors in the documents each day.

The scatter graph shows this information.



On another day 90 documents are checked.
There is a total of 17 errors.

(a) Show this information on the scatter graph.

(1)

(b) Describe the correlation between the number of documents checked and the total number of errors.

.....
(1)

One day 110 documents are checked.

(c) Estimate the total number of errors in these documents.

.....
(2)

(Total for Question 12 is 4 marks)

13 Here is a triangular prism.

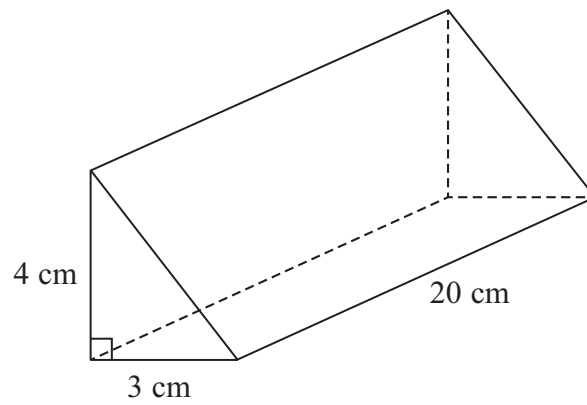


Diagram **NOT**
accurately drawn

Work out the volume of this triangular prism.

.....
(Total for Question 13 is 4 marks)

14 Rita is going to make some cheeseburgers for a party.
She buys some packets of cheese slices and some boxes of burgers.

There are 20 cheese slices in each packet.

There are 12 burgers in each box.

Rita buys exactly the same number of cheese slices and burgers.

(i) How many packets of cheese slices and how many boxes of burgers does she buy?

..... packets of cheese slices

..... boxes of burgers

Rita wants to put one cheese slice and one burger into each bread roll.

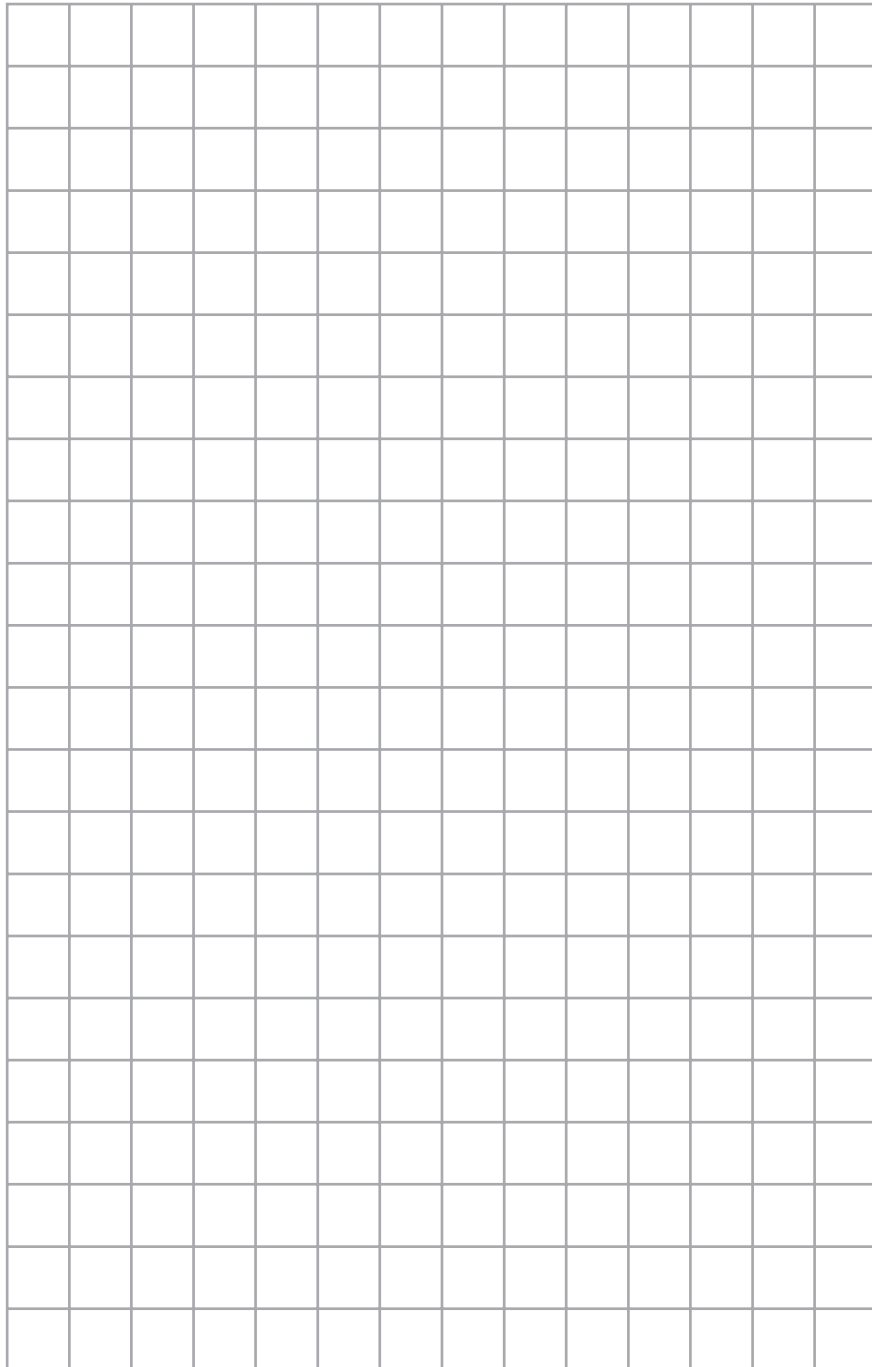
She wants to use all the cheese slices and all the burgers.

(ii) How many bread rolls does Rita need?

..... bread rolls

(Total for Question 14 is 4 marks)

15 On the grid, draw the graph of $y = 3x + 2$ for values of x from -2 to 2



(Total for Question 15 is 4 marks)

16 The diagram shows the floor of a village hall.

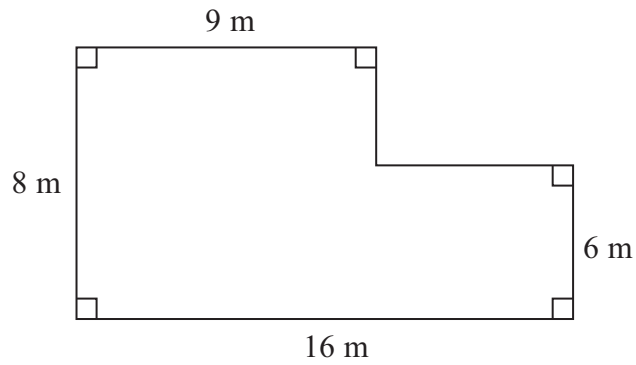


Diagram **NOT**
accurately drawn

The caretaker needs to polish the floor.

One tin of polish normally costs £19

One tin of polish covers 12 m^2 of floor.

There is a discount of 30% off the cost of the polish.

The caretaker has £130

Has the caretaker got enough money to buy the polish for the floor?

You must show all your working.

(Total for Question 16 is 5 marks)

17 Each day a company posts some small letters and some large letters.

The company posts all the letters by first class post.

The tables show information about the cost of sending a small letter by first class post and the cost of sending a large letter by first class post.

Small Letter

| Weight | First Class Post |
|---------|------------------|
| 0–100 g | 60p |

Large Letter

| Weight | First Class Post |
|-----------|------------------|
| 0–100 g | £1.00 |
| 101–250 g | £1.50 |
| 251–500 g | £1.70 |
| 501–750 g | £2.50 |

One day the company wants to post 200 letters.

The ratio of the number of small letters to the number of large letters is 3 : 2

70% of the large letters weigh 0–100 g.

The rest of the large letters weigh 101–250 g.

Work out the total cost of posting the 200 letters by first class post.

£.....

(Total for Question 17 is 5 marks)

18 Hertford Juniors is a basketball team.

At the end of 10 games, their mean score is 35 points per game.

At the end of 11 games, their mean score has gone down to 33 points per game.

How many points did the team score in the 11th game?

.....

(Total for Question 13 is 3 marks)

18 (a) Write down the exact value of $\sin(60)$

.....

(1)

(b) Write down the exact value of $\tan(45)$

.....

(1)

(c) Calculate $9 \times 10^4 \times 3 \times 10^3$

Give your answer in standard form.

.....

(2)

(Total for Question 18 is 4 marks)

19 Solve the simultaneous equations

$$3x + 4y = 5$$

$$2x - 3y = 9$$

$x = \dots\dots\dots$

$y = \dots\dots\dots$

(Total for Question 19 is 4 marks)

20 This is a list of ingredients for making chicken soup for 4 people.

| Ingredients for 4 people | |
|--------------------------|---------------|
| 60 g | butter |
| 300 g | chicken |
| 150 ml | cream |
| 1 | onion |
| 640 ml | chicken stock |

Bill is going to make chicken soup for 6 people.

Work out the amount of each ingredient he needs.

- g butter
- g chicken
- ml cream
- onion
- ml chicken stock

(Total for Question 20 is 3 marks)
