Mathematics Paper 2 (Calculator) Foundation Tier

Edexcel GCSE

SET 2

THIRD SPACE LEARNING

Mathematics Paper 2 (Calculator) Foundation Tier Edexcel GCSE SET 2

Name

Total marks

Paper length: 1hr 30mins

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.
- You must show all your working.
- Diagrams are NOT accurately drawn, unless otherwise indicated.
- Calculators may be used.

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.

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser. Tracing paper may be used.

Please note, this practice paper is an example to help revision, these topics can be tested in other ways and other topics may be included in the actual papers

THIRD SPACE
LEARNING

1   Write 0.75 as a fraction in its simplest form.

(Total for Question 1 is 1 mark)

2   Change 230 centimetres to metres.

------------------------------ *m*

(Total for Question 2 is 1 mark)

3   Write down two factors of 21.

(Total for Question 3 is 1 mark)

4   Find the value of 2.1^2.

(Total for Question 4 is 1 mark)

5   Here is a list of numbers.

   3   12   16   25   27   30

From the list write down a cube number.

(Total for Question 5 is 1 mark)

6 Ben and Maizy go to the cinema. Here is the price list.

Ticket	£4.99
Popcorn	£2.50
Sweets	£1.95
Crisps	£1.70
Drinks	£2.10

Ben and Maizy buy a ticket each.

Ben has popcorn and a drink.

Maizy has sweets and a drink.

They pay together with a £20 note.

How much change do they get?

£ ....

(Total for Question 6 is 3 marks)

7 Nia is *n* years old. Nia is twice as old as Ifan.

Write an expression, in terms of *n*, for Ifan's age.

....

(Total for Question 7 is 1 mark)

8   The pictogram shows information about the number of year 7 students who had school dinners on Monday, Tuesday and Wednesday.

Monday	▦ ▦
Tuesday	▦ ▦ ▦ ▛
Wednesday	▦ ▦ ▦ ◼
Thursday	

Key:

◼

Represents
8 students
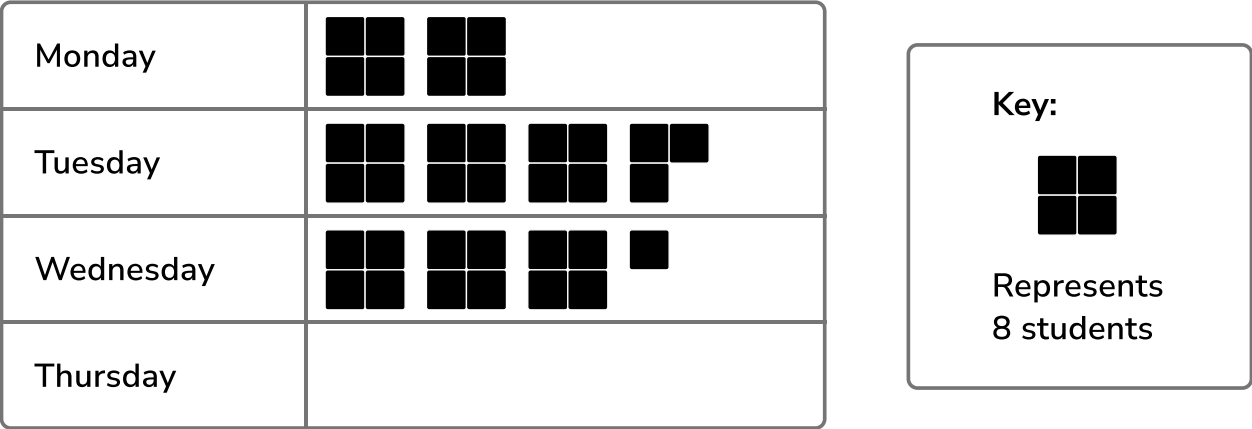
On Thursday, 20 students had school dinners.

(a) Use this information to complete the pictogram.
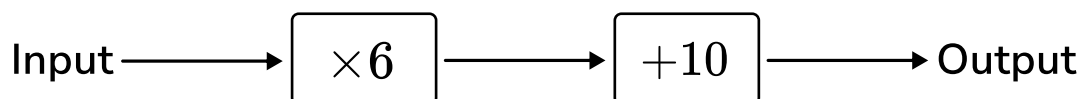
(1)

There are 56 students in year 7.

(b) Lily says that on Tuesday more than half of the students in year 7 had school dinners.
Is Lily correct?
Explain how you know.

----

(2)

(Total for Question 8 is 3 marks)

9 Here is a number machine.

Input $\longrightarrow$ $\boxed{\times 6}$ $\longrightarrow$ $\boxed{+10}$ $\longrightarrow$ Output

(a) Work out the output when the input is 5.

- -

(1)

Willow is going to create a different number machine.

She wants the output to be 16 when the input is 3.

(b) Complete the number machines below to show two different combinations of functions she could use.

Input $\longrightarrow$ $\boxed{\times ....}$ $\longrightarrow$ $\boxed{.........}$ $\longrightarrow$ Output

Input $\longrightarrow$ $\boxed{\times ....}$ $\longrightarrow$ $\boxed{.........}$ $\longrightarrow$ Output

(2)
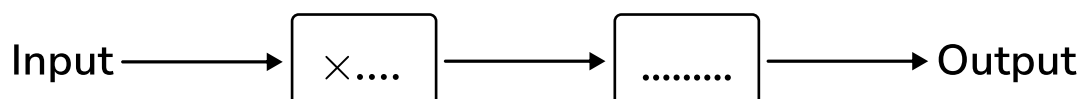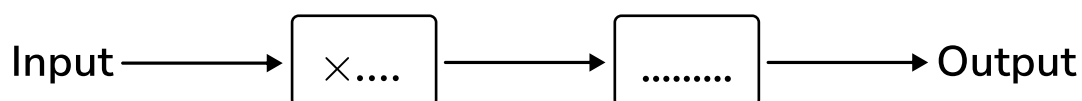
(Total for Question 9 is 3 marks)

10 Here is a list of numbers.

4   11   7   9   4   1   2   6

(a) Work out the mean.

(2)

(b) Work out the median.

(2)

(c) One number is picked at random.

What is the probability it is a square number?

(2)

(Total for Question 10 is 6 marks)

11 Harry gets paid £11.20 per hour.

On Monday he starts work at 09 15 and finishes at 16 45.

(a) How much does Harry get paid on Monday?

£ _____

(2)

It takes Harry 12 minutes to walk to the bus station. He gets off the bus at Kingfisher Close and it then takes him 4 minutes to walk home.

Here is a section of the bus timetable.

Bus station	Kingfisher Close
16 48	17 02
17 03	17 17
17 18	17 32

(b) What is the earliest Harry could arrive home on Monday?

_____

(3)

(Total for Question 11 is 5 marks)

12 (a) Solve $x + 11 = 20$

----

(1)

(b) Solve $\dfrac{x}{3} - 5 = 6$

----

(2)

(Total for Question 12 is 3 marks)

---

13 Here are the test results of three students.

Jack	$\dfrac{10}{12}$
Yasmin	$\dfrac{15}{20}$
Sam	$\dfrac{11}{15}$

Yasmin says 'I have done the best as I got the highest mark'.

By comparing the fractions, decide whether Yasmin is correct.

You must show all of your working.

(Total for Question 13 is 3 marks)

14 Here is a triangle.
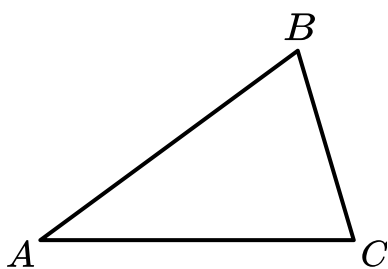
The angles in the triangle are in the ratio 2:3:4.

Work out the size of the smallest angle.

°

(Total for Question 14 is 3 marks)

15 (a) Calculate $\dfrac{\sqrt{37} + 2.9}{5.1}$

Write down all the figures on your calculator display.

(2)

(b) Round your answer to part (a) to 3 significant figures.

(1)

(Total for Question 15 is 3 marks)

16 Here is a cuboid.

7cm

4cm

0.1m
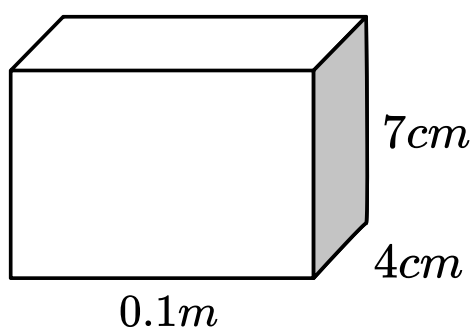
Lianne says the volume of the cuboid is $0.1 \times 4 \times 7 = 2.8 \text{c}m^2$.

Write down two mistakes Lily has made.

1. _____

_____

2. _____

_____

(Total for Question 16 is 2 marks)

17 Make p the subject of the formula $h = 6p - 7$

(Total for Question 17 is 2 marks)

18   120 people go to the zoo.

64 of the people are children.

15 of the adults have season passes.

$\frac{3}{4}$ of the people bought day tickets.

(a) Complete the frequency tree for this information.

(4)
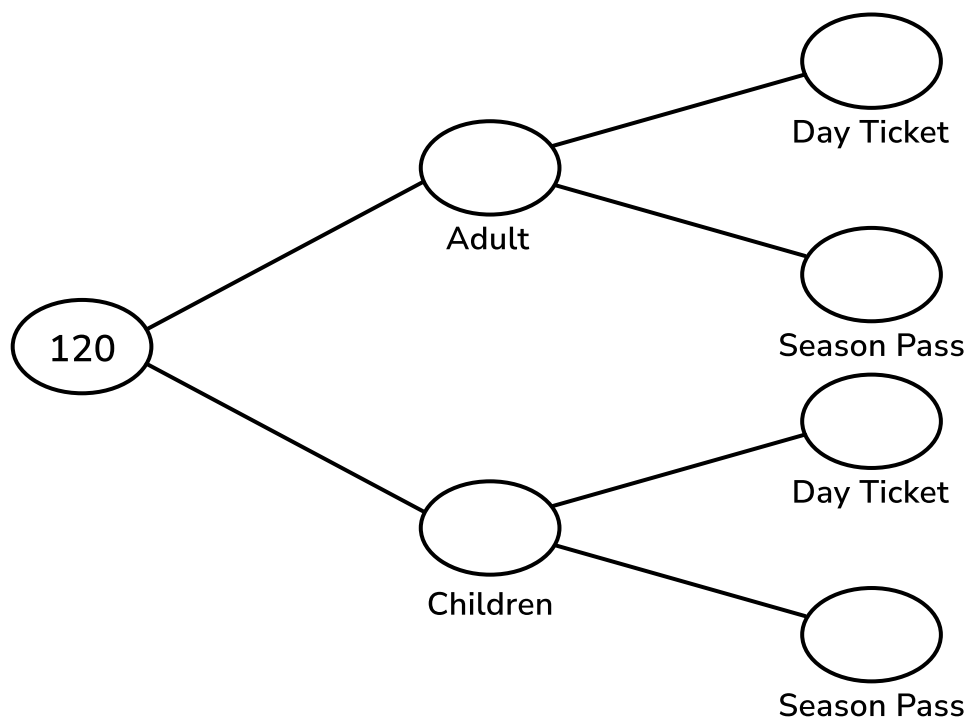
(b) One of the children is picked at random. What is the probability that the child has a season pass?

(2)

(Total for Question 18 is 6 marks)

19 The diagram shows a solid prism.

*Diagram NOT
accurately drawn*
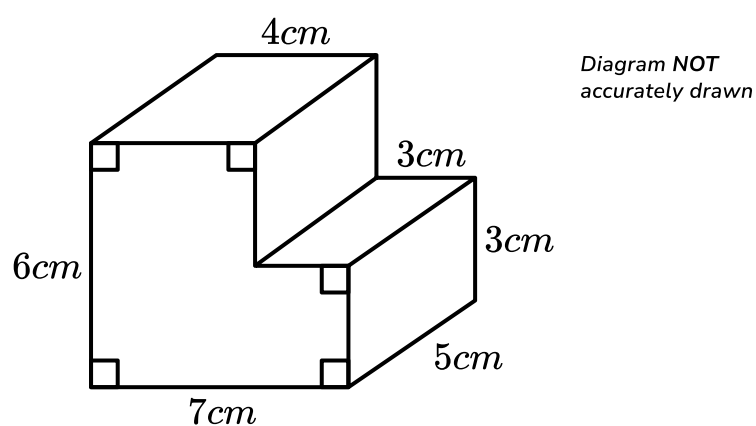
(a) On the centimetre square grid, draw the plan of the solid prism.
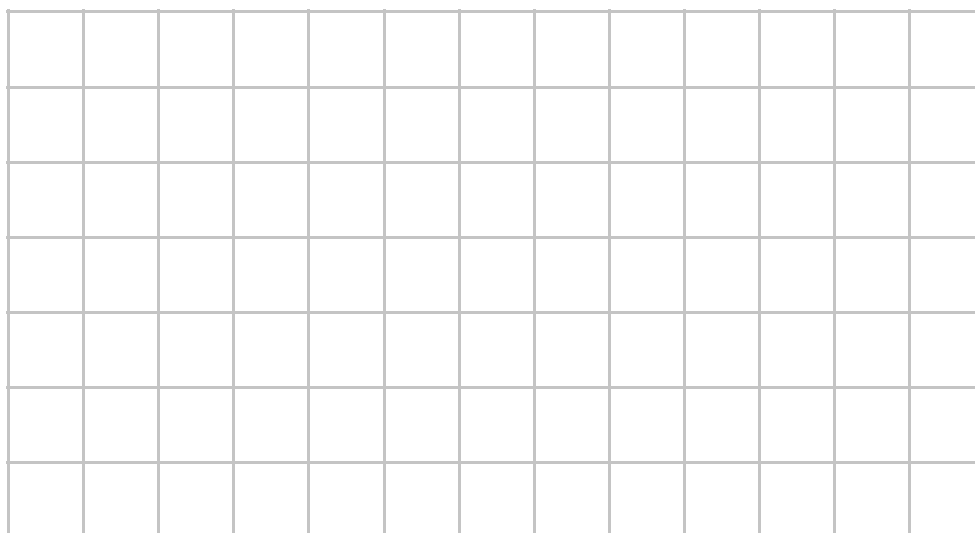
(2)

(b) Write down the number of vertices that this prism has.
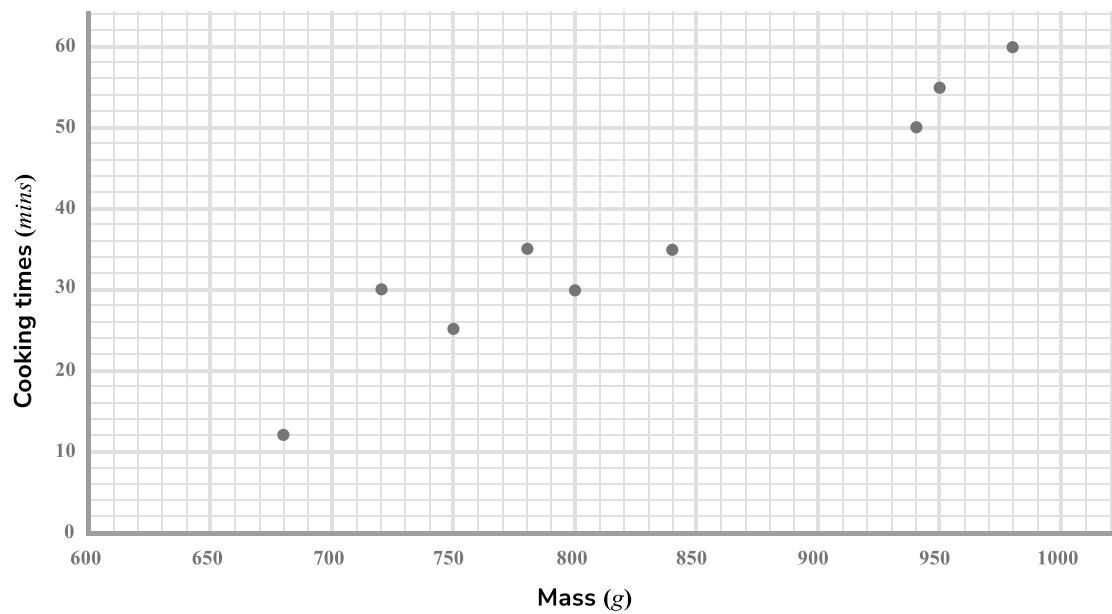
(1)

(Total for Question 19 is 3 marks)

20 On the grid below, draw the graph of $y = 3x - 1$ for values of x from -1 to 3.
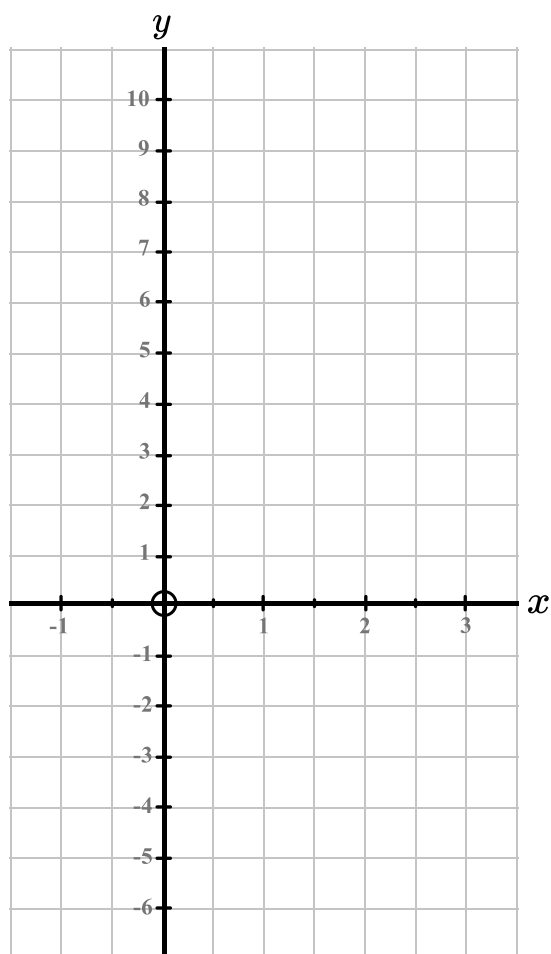
(Total for Question 20 is 3 marks)

21 This scatter diagram shows information about the cooking times of a variety of cakes.

Here is some information about another three cakes.

Mass (*g*)	750	850	700
Cooking time (*mins*)	35	50	20

(a) Plot this information on the scatter diagram.
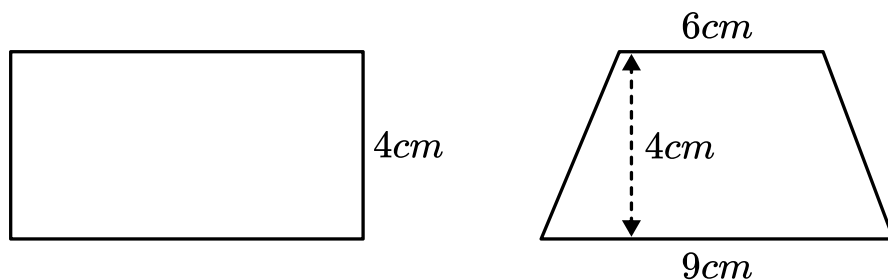
(2)

(b) What type of correlation does this scatter diagram show?

....

(1)

(c) Use the scatter diagram to estimate the cooking time of a cake which weighs 900*g*.

.... mins

(2)

(Total for Question 21 is 5 marks)

22 Here is a rectangle and a trapezium.

$6cm$

$4cm$

$4cm$

$9cm$

The area of the rectangle is 40% greater than the area of the trapezium.

Work out the length of the rectangle.

_____ cm

(Total for Question 22 is 4 marks)

---

23 A box holds 12 doughnuts.

It takes $500g$ of flour to make 20 doughnuts.

Linda needs to make 4 boxes of doughnuts and she has $1.5kg$ of flour.

Does Linda have enough flour to make 4 boxes of doughnuts?

You must show how you decide.

_____

(Total for Question 23 is 4 marks)

24 Solve the simultaneous equations

$3a + 2b = 20$

$4a - 3b = 12.5$

(Total for Question 24 is 3 marks)

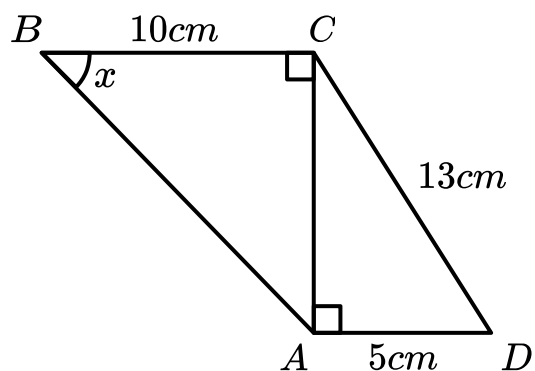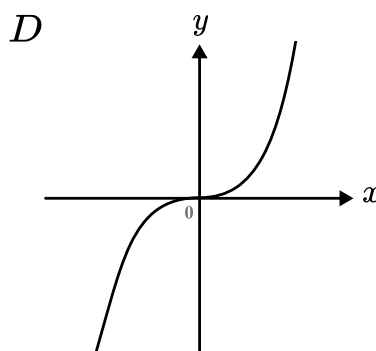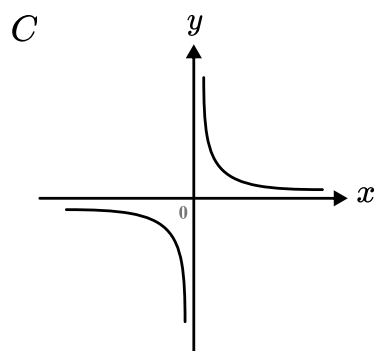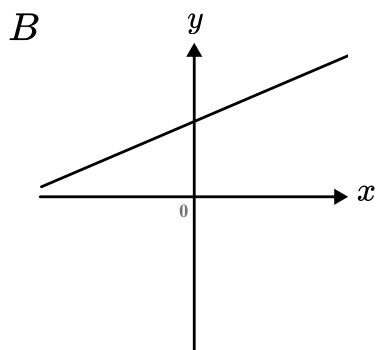**25** ABCD is a quadrilateral made from two right angled triangles.

Diagram NOT accurately drawn

Work out the size of angle x.

Give your answer to 1 decimal place.

26 Here are four graphs.

A

B

C

D
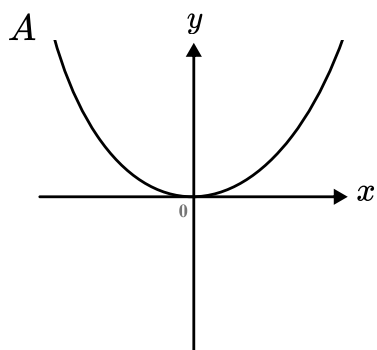
Write down the letter of the graph that could have equation:

$y = \dfrac{1}{2}x + 3$	
$y = x^3$	
$y = \dfrac{1}{x}$	

(Total for Question 26 is 3 marks)

27 Here are two column vectors.

$$a = \begin{pmatrix} 3 \\ 1 \end{pmatrix} \quad b = \begin{pmatrix} -1 \\ 2 \end{pmatrix}$$

On the grid below, draw and label the vector $2a + b$

(Total for Question 27 is 3 marks)

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