



THIRD SPACE
LEARNING

Mathematics

Paper 3

(Calculator)

Foundation Tier

Edexcel GCSE

SET 1A

Mathematics Paper 3 (Calculator) Foundation Tier Edexcel

GCSE SET 1A

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 not 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

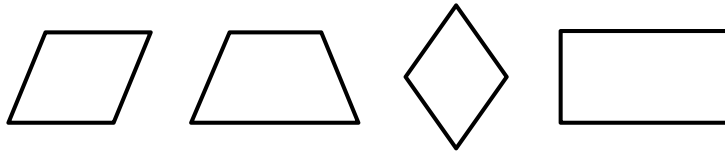
- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

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

This practice paper is based on the topics from the **advanced information for the Summer 2022 exam series**.

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

- 1 Draw a line to connect each quadrilateral to the correct name.

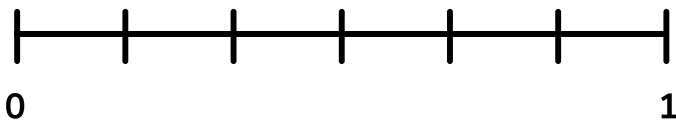


Rhombus	Parallelogram	Rectangle	Square	Kite	Trapezium
---------	---------------	-----------	--------	------	-----------

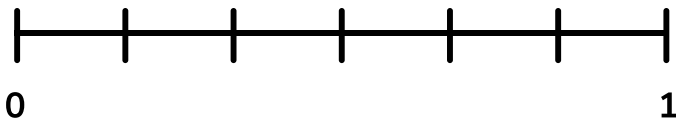
(Total for Question 1 is 2 marks)

- 2 Carson rolls a fair dice.

(a) On the probability scale, mark with a cross (X) the probability that Carson rolls an odd number. (1)



(b) On the probability scale, mark with a cross (X) the probability that Carson rolls a 7. (1)



(Total for Question 2 is 2 marks)

- 3 (a) Write down $\sqrt{100}$

(1)

(b) Calculate $\frac{4}{9}$ of 72

(1)

(c) Write 64% as a fraction in its simplest form.

(2)

(Total for Question 3 is 4 marks)

4 Here are 5 numbers:

24	1	2	10	6
----	---	---	----	---

(a) Choose three numbers to make the answer to this calculation as large as possible

..... + -

(1)

(b) Choose two numbers to make the answer to this calculation as small as possible

..... \div

(1)

(c) Choose 3 numbers which are factors of 12

.....,,

(1)

(Total for Question 4 is 3 marks)

5 A triangle has two angles of 45° each. Circle two terms which describe the triangle.

Scalene

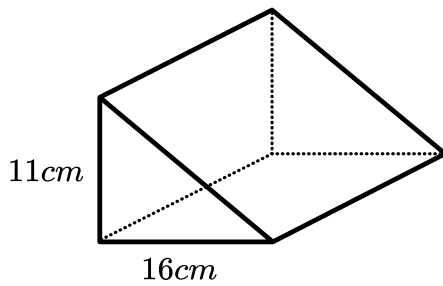
Isosceles

Right angled

Equilateral

(Total for Question 5 is 2 marks)

6



(a) Write down the mathematical name for this shape.

(1)

(b) How many edges does this shape have?

(1)

(c) Calculate the area of the cross-section.

----- cm^2
(2)

(Total for Question 6 is 4 marks)

7 Zaid's shop stocks 16 different flavours of ice cream.

(a) Marwa likes 12 of the flavours.

What fraction of the flavours does Marwa like?

(1)

(b) Linda likes 14 of the flavours. What percentage of flavours does Linda **not** like?

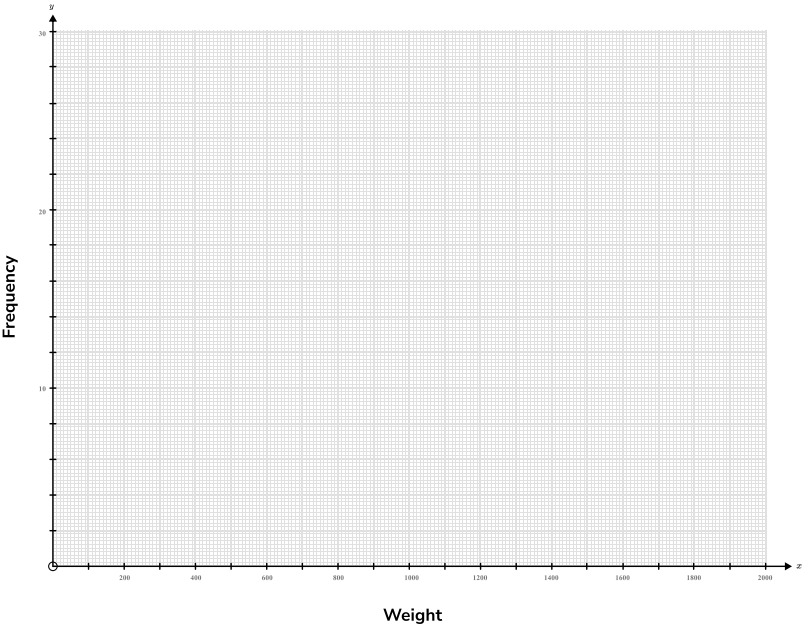
(2)

(Total for Question 7 is 3 marks)

8 Lisa collected some information about the weights of the parcels taken to the post office one day.

Weight	Number of parcels
$0 < w \leq 500g$	15
$500 < w \leq 1000g$	28
$1000 < w \leq 1500g$	14
$1500 < w \leq 2000g$	7

Draw a frequency polygon to represent this information.



(Total for Question 8 is 3 marks)

- 9 Pencils are sold in packs of 12.
Pens are sold in packs of 10.
Rulers are sold in packs of 15.

A school wants to buy the same number of each. Work out the smallest number of packs of each item that the school could buy.

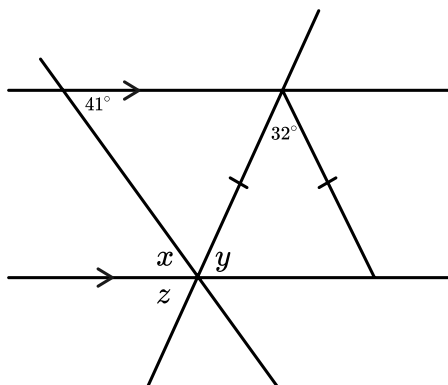
.....packs of pencils

.....packs of pens

.....packs of ruler

(Total for Question 9 is 3 marks)

10 Work out the size of angles x , y and z .



x

y

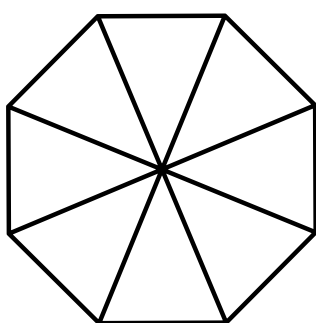
z

(Total for Question 10 is 4 marks)

11 Wendy is designing a game. She wants to design a spinner using the numbers 1, 2, 3 and 4 where:

- Every number is used at least once
- The probability of getting an odd number is greater than the probability of getting an even number
- The probability of getting a 3 is $\frac{1}{2}$
- The probability of getting a 2 is $\frac{1}{4}$

Complete the spinner so that it meets these requirements.



(Total for Question 11 is 3 marks)

12 The n th term of a sequence is $4n - 1$.

The n th term of another sequence is $3n + 2$.

Write down the first two terms that appear in both sequences.

(Total for Question 12 is 3 marks)

13 Two classes take the same test. Their results are shown in the table.

Class A			Class B		
18	15	23	13	14	20
7	25	6	12	14	13
19	11	17	19	20	17
18	16	24	12	12	15

(a) Work out the median and range for each class.

Class A: median..... range.....

Class B: median..... range.....

(3)

(b) Compare the distribution of the marks in the two classes.

.....

.....

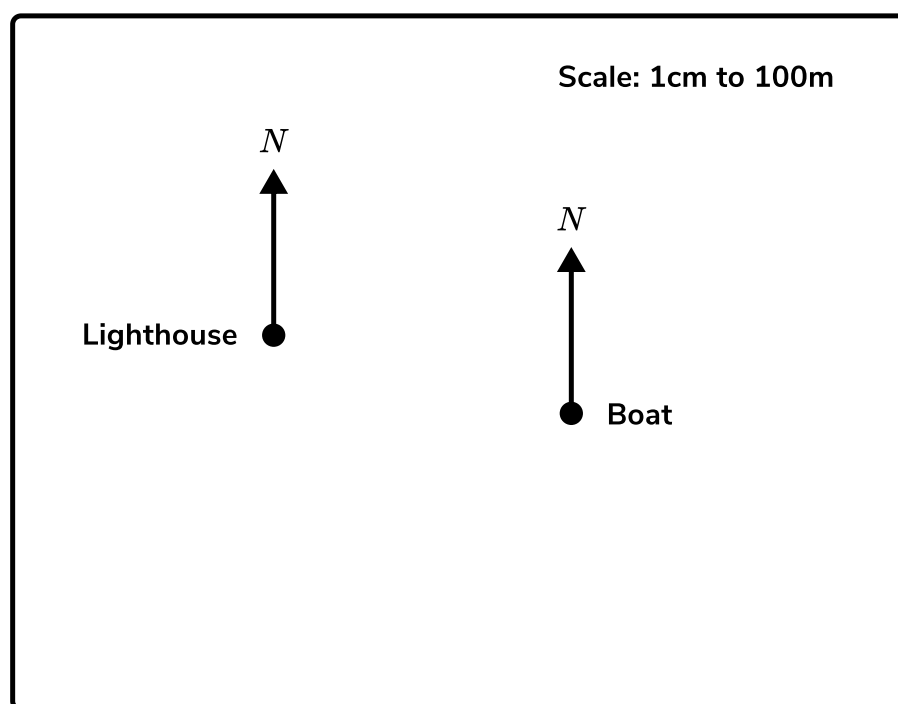
(2)

(Total for Question 13 is 5 marks)

- 14** Max, Eloise and Callie have some marbles. Max has twice as many marbles as Eloise. Callie has two less marbles than Eloise. Altogether they have 38 marbles. Work out how many marbles each child has.

(Total for Question 14 is 4 marks)

- 15** A boat is sailing near a lighthouse.



- (a) Write down the actual distance from the lighthouse to the boat.

o o

(1)

- (b) Measure the bearing of the boat from the lighthouse.

(2)

- (c) A second boat is on a bearing of 150° from the lighthouse and 250 from the first boat.
Mark the position of the second boat on the map.

(2)

(Total for Question 15 is 5 marks)

16 (a) Expand $-3x(2x - 1)$.

(1)

(b) Fully factorise $8a^2b + 10ab^3$

(2)

(Total for Question 16 is 3 marks)

17 Here is a list of ingredients for 12 sponge cakes.

Butter	120g
Sugar	150g
Eggs	2
Flour	160g

(a) Thais wants to make 30 cupcakes. Thais has 300 g butter, 500g sugar, 10 eggs and 350g flour. Does Thais have enough ingredients? Show how you decide.

(3)

(b) i) Write down the ratio of butter to sugar in the recipe.

(1)

ii) Write your ratio in the form 1:n

(2)

(Total for Question 17 is 6 marks)

18 Austin goes on a journey. His journey is broken into three sections.

	Distance	Time
Section A	40km	1 hour
Section B	30km	0.5 hours
Section C	60km	2 hours

(a) During which section of the journey is Austin travelling at the greatest speed?

(2)

(b) Austin has calculated that to be on time, his average speed must be above 36km/h. Will Austin be on time? Show how you decide.

(2)

(c) Convert 36km/h to m/s.

(2)

(Total for Question 18 is 6 marks)

19 Use your calculator to find the value of $\frac{10 + \cos(60)}{8^2}$

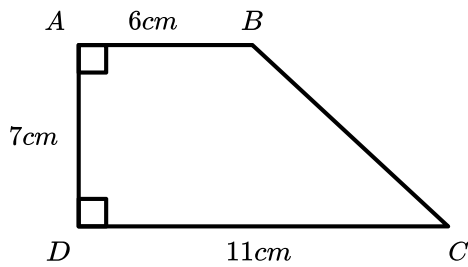
(a) Write down all of the digits on your display.

(2)

(b) Round your answer to 2 significant figures.

(1)

(Total for Question 19 is 3 marks)

20

(a) Calculate the area of the trapezium.

----- cm^2
(2)

(b) Work out the length of BC.

----- cm
(2)

(Total for Question 20 is 4 marks)**21** A furniture store is having a 20% sale.

(a) A sofa usually costs £1200. Work out the sale price of the sofa.

(2)

(b) The sale price of a table is £480. Work out the original price of the table.

(2)

(Total for Question 21 is 4 marks)**22** (a) Make y the subject of the formula $x = 3y^2 - 4w$

$y =$ -----
(2)

(b) Find the value of y when $x = 10$ and $w = 2$

$y =$ -----
(2)

(Total for Question 22 is 4 marks)

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