Write your name here

Surname	Other names

Edexcel GCSE

Centre Number	Candidate Number

Mathematics B

Unit 3: Number, Algebra, Geometry 2 (Calculator)

Foundation Tier

Tuesday 19 June 2012 – Afternoon
Time: 1 hour 30 minutes

Paper Reference
5MB3F/01

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

Total Marks

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 be used.**
- If your calculator does not have a π button, take the value of π to be 3.142 unless the question instructs otherwise.

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.*
- Questions labelled with an **asterisk** (*) are ones where the quality of your written communication will be assessed.

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.

Turn over ▶

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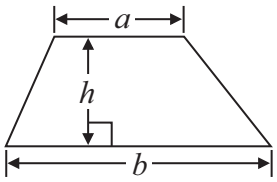
PEARSON

GCSE Mathematics 2MB01

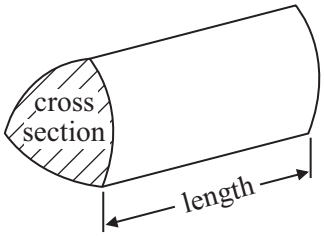
Formulae: Foundation Tier

You must not write on this formulae page.
Anything you write on this formulae page will gain NO credit.

Area of trapezium = $\frac{1}{2}(a + b)h$



Volume of prism = area of cross section × length

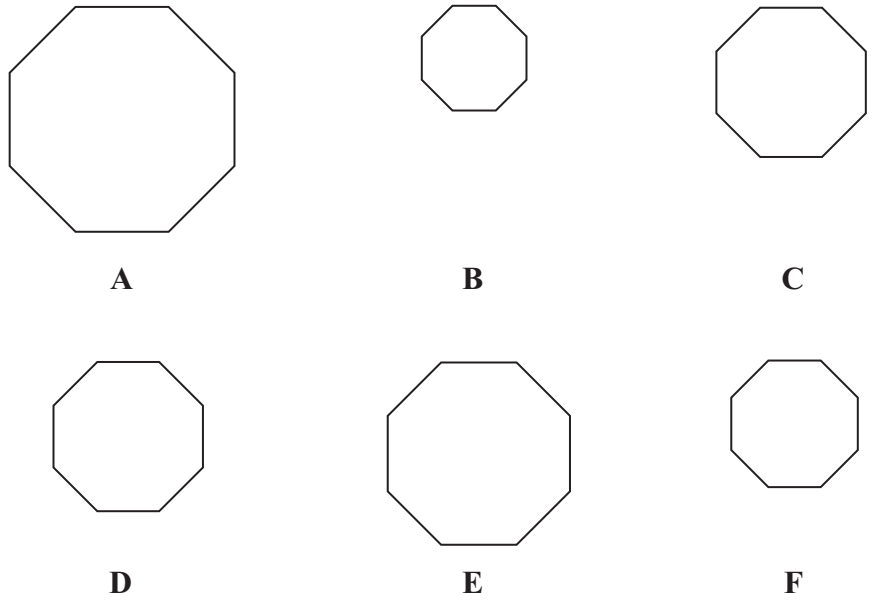


Answer ALL questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

1 Here are some regular polygons.



A **B** **C**

D **E** **F**

All these regular polygons have the same mathematical name.

(a) Write down this mathematical name.

.....

(1)

Two of these polygons are congruent.

(b) Write down the letters of these two polygons.

..... and .....

(1)

The interior angles of this regular polygon add up to 1080°

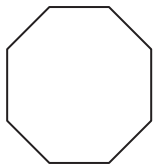


Diagram **NOT** accurately drawn

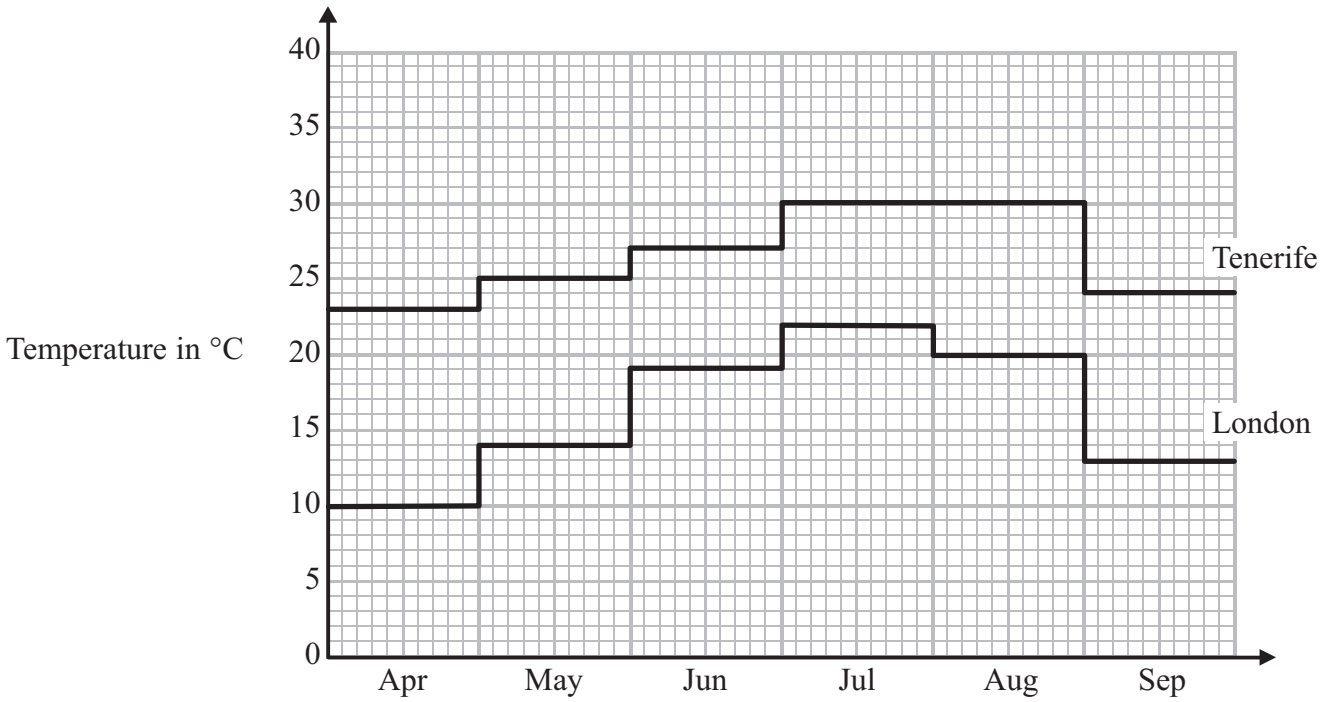
(c) What is the size of one interior angle?

..... °

(2)

(Total for Question 1 is 4 marks)

2 The diagram shows the average midday temperature in Tenerife and in London during 6 months.



(a) During which two months is the average midday temperature in Tenerife the same?

.....

(1)

(b) During which month is there the greatest difference between the average midday temperatures in London and in Tenerife?

.....

(1)

(c) Write down the average midday temperature in May for London.

..... °C

(1)

(d) In September, what is the difference between the average midday temperatures in London and in Tenerife?

..... °C

(2)

(Total for Question 2 is 5 marks)

3 Draw a sketch of a pentagon.

(Total for Question 3 is 1 mark)

4 (a) Work out $+3 - 5$

.....

(1)

(b) Work out $-12 - 6$

.....

(1)

(Total for Question 4 is 2 marks)

5 (a) Solve $4x = 20$

$x =$ .....

(1)

(b) Solve $y + 5 = 12$

$y =$ .....

(1)

(Total for Question 5 is 2 marks)

6 The diagram shows two places on a map.

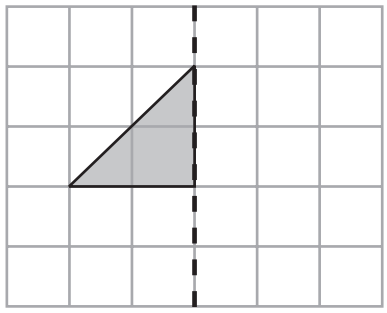
The scale of the map is 1 centimetre represents 2 kilometres.

What is the real distance, in kilometres, from the hill to the tower?

..... kilometres

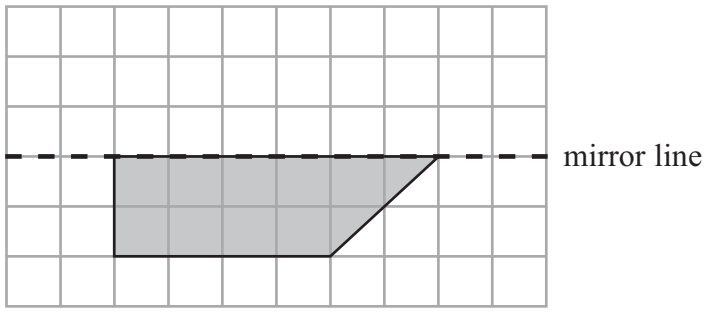
(Total for Question 6 is 2 marks)

7 (a) Reflect the shaded shape in the mirror line.



(1)

(b) Reflect the shaded shape in the mirror line.



(1)

(Total for Question 7 is 2 marks)

***8** Mark works in a Maths equipment shop in a school.
He sells calculators, rulers and protractors.

Item	Price
Calculator	£2.50
Ruler	15p
Protractor	20p

The table below shows the number of calculators, rulers and protractors Mark sold this week.

	Calculators	Rulers	Protractors
Monday	1	3	2
Tuesday	0	4	0
Wednesday	2	2	0
Thursday	4	0	3
Friday	3	2	2

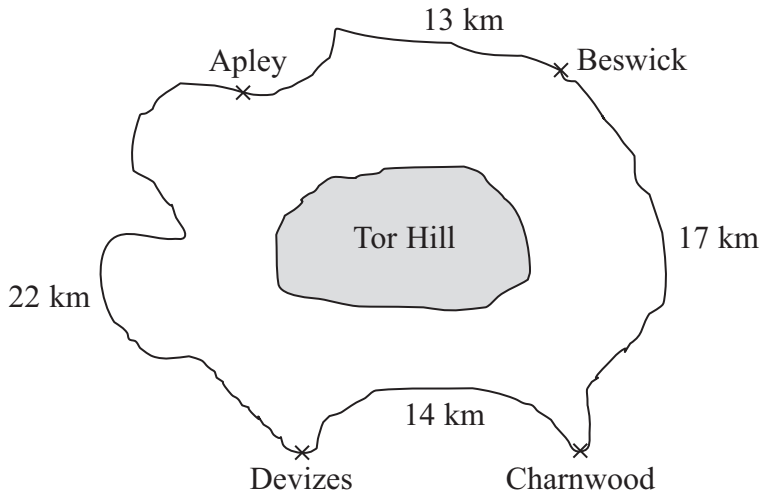
Mark has a sales target of £28 per week.

Has Mark sold at least £28 of equipment this week?
You must show all your working.

(Total for Question 8 is 5 marks)

9 The diagram shows the distance between four towns.

Diagram **NOT** accurately drawn



Sanjay drives from Apley to Beswick then to Charnwood then to Devizes.
He then drives back to Apley.

(a) Work out the total distance Sanjay drives.

..... km

(2)

It is further from Apley to Charnwood through Devizes, than from Apley to Charnwood through Beswick.

(b) How much further?

..... km

(3)

Sanjay runs in a race from Beswick to Charnwood.
There is a water point every kilometre.
The first water point is at Beswick.
The last water point is at Charnwood.

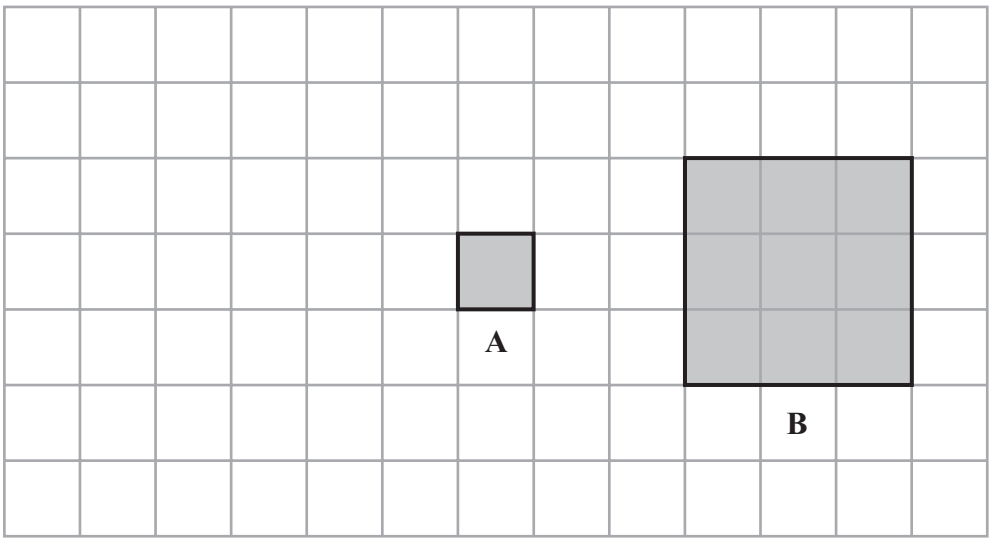
(c) Work out the number of water points.

.....

(2)

(Total for Question 9 is 7 marks)

10 Here are two squares.



Square **B** is an enlargement of square **A**.

(a) What is the scale factor of the enlargement?

.....

(1)

Square **A** is moved 4 squares to the left.

(b) On the grid, draw the new position of square **A**.

(1)

(c) In the space below, draw accurately a square with side of length 4 cm.

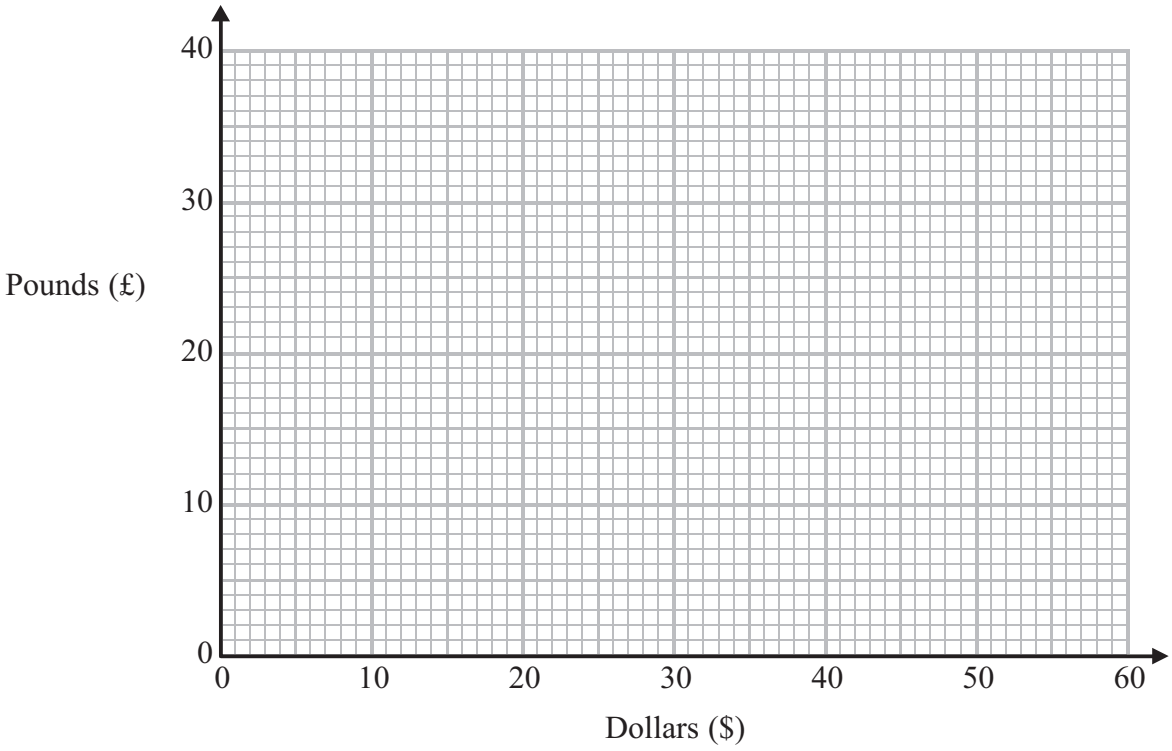
(2)

(Total for Question 10 is 4 marks)

11 The table shows how much some amounts of money in dollars ($) are when they are changed to pounds (£).

Dollars ($)	0	15	30	45	60
Pounds (£)	0	10	20	30	40

(a) On the grid, use this information to draw a line graph to change between dollars and pounds.



(2)

(b) Use your line graph to change

(i) £25 into $

$ .....

(ii) $50 into £

£ .....

(2)

(Total for Question 11 is 4 marks)

12 Hayley is buying bottles of juice for a children's party.

She uses this rule to work out the number of bottles of juice she needs.

Number of bottles = Number of children ÷ 4 + 5

There will be 24 children at the party.

(a) Work out the number of bottles of juice Hayley needs.

.....

(2)

Hayley needs 13 bottles of juice for a different children's party.
She used the same rule.

(b) Work out the number of children at this party.

.....

(3)

(Total for Question 12 is 5 marks)

13 A shop sells a CD for £14

The record company gets $\frac{2}{5}$ of the £14

The shopkeeper gets $\frac{7}{20}$ of the £14

The singer gets the rest of the £14

Work out how much money the singer gets.

£ .....

(Total for Question 13 is 4 marks)

14 Josh has some land in the shape of a triangle as shown in the diagram.

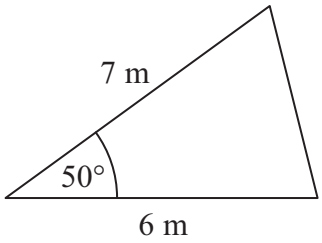


Diagram **NOT** accurately drawn

(a) Make an accurate scale drawing of this triangle.

(3)

Josh is going to put a fence along each side of the land.

(b) Work out the total length of the fence.

..... m

(2)

(Total for Question 14 is 5 marks)

15 John makes clay cups.
He makes 18 cups each hour.

He makes cups for $6\frac{1}{2}$ hours each day, on 5 days of the week.

The cups are packed in boxes.
4 cups are packed into each box.

How many boxes are needed for all the cups John makes in a week?

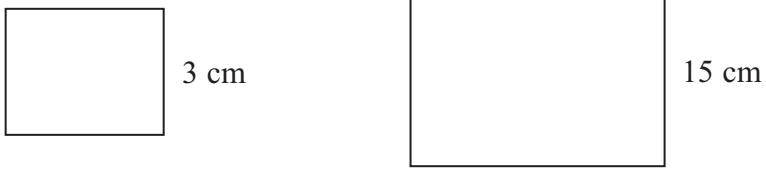
.....

(Total for Question 15 is 4 marks)

16 A small photograph has a length of 4 cm and a width of 3 cm.
Shez enlarges the small photograph to make a large photograph.

The large photograph has a width of 15 cm.

Diagram **NOT** accurately drawn



Small photograph Large photograph

The two photographs are similar rectangles.

Work out the length of the large photograph.

.....

(Total for Question 16 is 3 marks)

17 £500 is invested at a simple interest rate of 3% per year.

After how many years is the total interest £60?

..... years

(Total for Question 17 is 3 marks)

18 Ali has x cards.
Belinda has twice as many cards as Ali.
Charlie has 5 more cards than Ali.

They have a total of 33 cards.

(a) Show that $4x + 5 = 33$

(3)

(b) Work out the number of cards Ali has.

.....

(2)

(Total for Question 18 is 5 marks)

19 Work out $3\frac{1}{3} \div 4\frac{3}{4}$

.....

(Total for Question 19 is 2 marks)

20 A cooker costs £650 plus 20% VAT.

(a) Calculate the total cost of the cooker.

£ .....

(3)

A washing machine has a price of £260
In a sale its price is reduced by £39

(b) Write the reduction as a percentage of the price.

..... %

(2)

3 kitchen chairs cost a total of £44.79

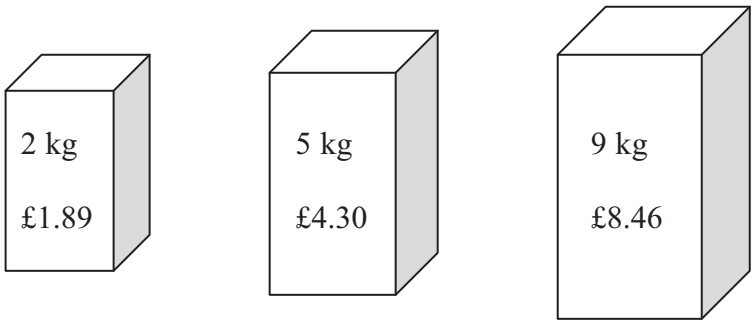
(c) Work out the total cost of 8 of these chairs.

£ .....

(2)

(Total for Question 20 is 7 marks)

***21** Soap powder is sold in three sizes of box.



A 2 kg box of soap powder costs £1.89
A 5 kg box of soap powder costs £4.30
A 9 kg box of soap powder costs £8.46

Which size of box is the best value for money?
Explain your answer.
You must show all your working.

(Total for Question 21 is 4 marks)

TOTAL FOR PAPER IS 80 MARKS

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