

# NEW SPECIMEN PAPERS **PUBLISHED JUNE 2015**

# **GCSE Mathematics** Specification (8300/1F)

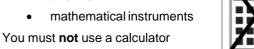


Paper 1 Foundation tier

Date Morning 1 hour 30 minutes

#### **Materials**

#### For this paper you must have:



#### Instructions

- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the bottom of this page.
- Answer all questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book.
- In all calculations, show clearly how you work out your answer.

#### Information

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 80.
- You may ask for more answer paper, graph paper and tracing paper. These must be tagged securely to this answer book.

Please write clearly, in block cap	tals, to allow character of	computer recognition.
Centre number	Candidate number	
Surname		
Forename(s)		
Candidate signature		

# Answer all questions in the spaces provided.

How many centimetres are there in 3.7 metres?Circle your answer.

[1 mark]

0.037

0.37

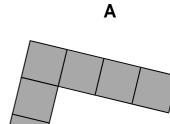
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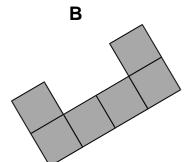
370

Which of these is the **net** of a **cube**?

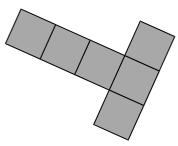
Circle the correct letter.

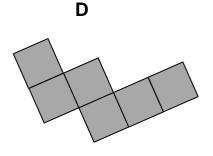
[1 mark]





C





3	Circle the fraction that is <b>not</b> equivalent to	3
		ŏ

[1 mark]

$$\frac{6}{16}$$

$$\frac{12}{32}$$

$$\frac{15}{35}$$

4 Simplify 5a - (2a + 6)Circle your answer.

[1 mark]

$$3a + 6$$

$$3a - 6$$

Turn over for the next question

[2 marks]

Minutes	Hours
30	1/2
40	
	2 <del>1</del> 4

6	Lara	are some	numbore
U	Hele	are some	HUHHD <del>E</del> IS.

9.6 12.6

15.4

7.6

12.4

17.4

[2 marks]

Write the numbers in pairs so that the **sum** of the numbers in each pair is the same.

Answer		and				

and	

and	

7	This triangle is drawn accurately.	
	What type of triangle is it? Tick <b>two</b> boxes.	[1 mark]
	acute-angled	
	obtuse-angled	
	equilateral	
	isosceles	
	scalene	
	Turn over for the	next question

8	Work out 51% of 400	[2 marks]
	Answer	_
	White 400 mass a faculties of O lan	
9	Write 180 g as a fraction of 3 kg	
	Give your answer in its simplest form.	[2 marks]
	Answer	_

10	Here are some pro	perties of number	ers.			
	А	Even				
	В	Odd				
	С	Prime				
	D	Square				
	E	Two-digit				
	_	i wo aigit				
10 (a)	Which <b>two</b> properti	as does the nun	nher 4 have?			
10 (a)	Circle the correct le		ilbel 4 llave:			
	Circle the correct is	atters.				[1 mark]
	Α	В	С	D	E	
10 (b)	Can one number h	ave <b>all</b> of the pro	operties?			
	Tick a box.					
					7	
	Yes		No		Cannot tell	
	Give a reason for y answer.	our				[4 mark]
	answer.					[1 mark]
10 (c)	Write down a numb	er with <b>three</b> of	the properties.			
(5)	State which proper		proposition			
	Ctate Willon proper	noo n nao.				[2 marks]
		Number	. <u> </u>			
		Properties				
		. 100011100			,	-

11	Ranjit has six coins in his pocket.  If he picks <b>five</b> of the coins the most he could pick is £4.60 the least he could pick is £2.70  How much money does he have altogether?	[4 marks]
	Answer £	

12	Here are three expres	ssions.		
	b			
	_	a-b	ab	
	a			
	When $a = 2$ and	b = -6 which expressi	on has the smallest value?	
	You <b>must</b> show your	working.		
				[2 marks]
		Answer		
		Turn over for the nex	t question	

The table shows the ratio of teachers to children needed for two activities.

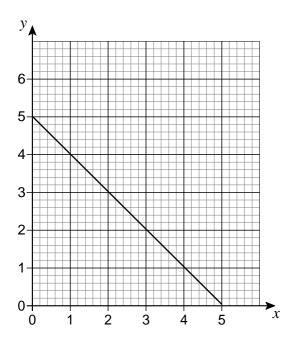
	teachers : children		
Climbing	1 : 4		
Walking	1 : 9		

13 (a)	There are 7 teachers to take children climbing.  What is the greatest number of children that can go climbing?	
		[1 mark]
	Answer	
13 (b)	49 children want to go walking.	
	What is the smallest number of teachers needed?	[1 mark]
	Answer	

14	Shape <i>R</i> is a rectangle.	
	A smaller rectangle is cut from R to form shape L.	Not drawn accurately
	R	
	Which <b>one</b> of these statements is true?	
	Tick a box.	[1 mark]
	The perimeter of $R$ is <b>longer than</b> the perimeter of $L$	
	The perimeter of <i>R</i> is the <b>same as</b> the perimeter of <i>L</i>	
	The perimeter of $R$ is <b>shorter than</b> the perimeter of $L$	
	It is <b>not</b> possible to tell which perimeter is longer	
	Turn over for the next question	

Textbooks are stored on two shelves.		
Each shelf is 0.72 metres long.		
Each textbook is 30 millimetres wide.	Not drawn accurately	
Can 50 textbooks be stored on these shelves?		
You <b>must</b> show your working.		[3 marks]
		[5 marks]
Answer		
All tickets for a concert are the same price.		
Amy and Dan pay £63 altogether for some tickets.		
Amy pays £24.50 for 7 tickets.		
How many tickets does Dan buy?		[4 marks]
		[4 marks]
<b>A</b>		
Answer		

Here is the graph of y = 5 - x for values of x from 0 to 5



17 (a) On the same grid, draw the graph of y = x + 1 for values of x from 0 to 5

[2 marks]

17 (b) Use the graphs to solve the simultaneous equations

$$y = 5 - x$$
 and  $y = x + 1$ 

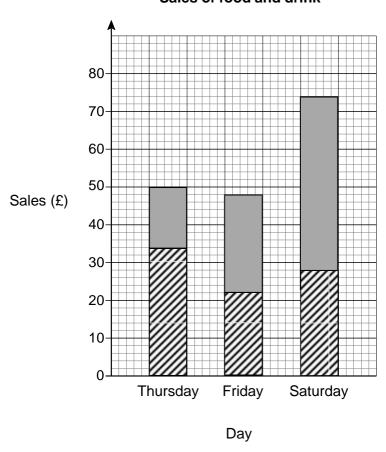
[1 mark]

The table shows the sales of food and drink for three days at a market stall.

Day	Sales of food (£)	Sales of drink (£)
Thursday	34	16
Friday	22	48
Saturday	46	28

Hannah uses this information to draw a composite bar chart.

# Sales of food and drink

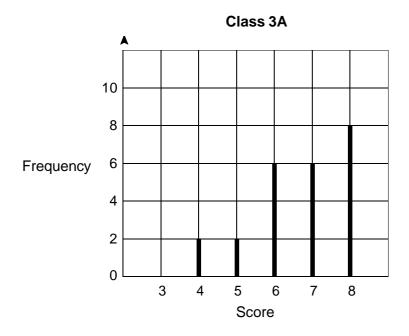


write dowr	three different mistakes that she has made.	[3 mar
Mistake 1		
Mistake 2		
He has alre	s to buy a camera for £345 eady saved £96	
Each week	his pay is £80 he saves 30% of this pay.	
How many	more weeks must he save?	[4 mar
	Answer	weeks

20 (a)	w and $x$ are <b>whole</b> numbers. $w > 40$ $x < 30$				
	Work out the <b>smallest</b> possible value of $w-x$	[2 marks]			
	Answer	_			
20 (b)	$y$ and $z$ are <b>whole</b> numbers. $y < 60$ $z \le 50$				
	Work out the <b>largest</b> possible value of $y + z$	[2 marks]			
	Answer	_			

21 (a)	Work out $2.4 \times 0.002$			
	Answer	_		
21 (b)	Write $1.2 \times 10^{-5}$ as an ordinary number.	[1 mark]		
	Answer	_		
21 (c)	Write 2 500 000 in standard form.	[1 mark]		
	Answer	_		
	Turn over for the next question			

The diagram shows information about the scores of Class 3A in a spelling test.

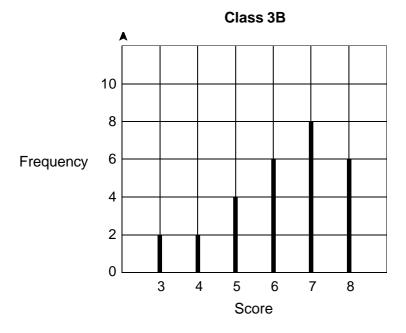


22 (a) A student is chosen at random from Class 3A.

Work out the probability that the student's score was the <b>mode</b> for the class.	
	[3 marks]

Answer	
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The diagram shows information about the scores of Class 3B in the same test.



**22 (b)** Show that Class 3A had more **consistent** scores than Class 3B.

Use the data from both diagrams.

[2 marks]

22 (c) Lucy is one of the 29 students in Class 3B.

Her score was the same as the **median** score for her class.

Work out her score.

[2 marks]

Answer

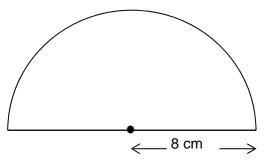
23	Kelly is trying to work out the two values of $w$ for which	$3w - w^3 = 2$
	Her values are 1 and -1	

Are her values correct?

You **must** show your working.

[2 marks]

24	The diagram shows a semicircle of radius 8 cm



Not drawn accurately

Work out the area of the semicircle.

Give your answer in terms of  $\pi$ .

[2 marks]

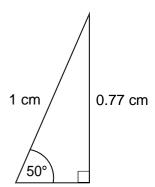
Answer \_\_\_\_ cm<sup>2</sup>

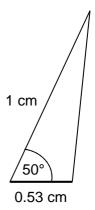
25	Work out $2\frac{3}{4} \times 1\frac{5}{7}$	
	Give your answer as a mixed number in its simplest form.	[3 marks]
	Answer	
26	Solve $5x - 2 > 3x + 11$	[2 marks]
	Answer	
	Turn over for the next question	

27	The $n$ th term of a sequence is $2n + 1$	
	The $n$ th term of a different sequence is $3n-1$	
	Work out the <b>three</b> numbers that are	
	in both sequences	
	and	
	between 20 and 40	[3 marks]
	Answer	
	Answer,,	

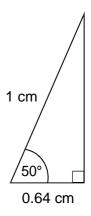
28	White paint costs £2.80 per litre. Blue paint costs £3.50 per litre. White paint and blue paint are mixed in the ratio 3 : 2	
	Work out the cost of 18 litres of the mixture.	[4 marks]
	Answer £	
	Turn over for the next question	

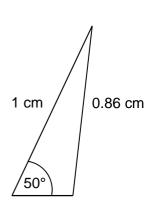
# Here are sketches of four triangles.





Not drawn accurately





In each triangle

the longest side is **exactly** 1 cm the other length is given to 2 decimal places.

# **29** (a) Circle the value of cos 50° to 2 decimal places.

[1 mark]

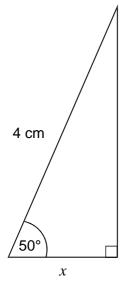
0.77

0.53

0.64

0.86

29 (b)	Work out the value of $x$ .	
	Give your answer to 1 decimal place.	



Not drawn accurately

[2 marks]

Answer \_\_\_\_\_ cm

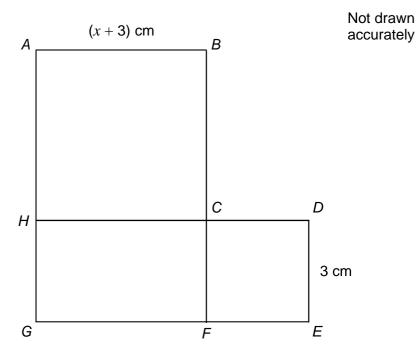
Turn over for the next question

30	ABCH is a	equare
<b>3</b> 0	ADUT IS a	square.

HCFG is a rectangle.

CDEF is a square.

They are joined to make an L-shape.



Show that the total area of the L-shape, in cm<sup>2</sup>, is  $x^2 + 9x + 27$ 

[4 marks]

### **END OF QUESTIONS**

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