Surname

Centre Number

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Candidate Number

Other Names



GCSE

4370/04

MATHEMATICS – LINEAR PAPER 2 FOUNDATION TIER

A.M. MONDAY, 17 June 2013

 $1\frac{3}{4}$ hours

ADDITIONAL MATERIALS

A calculator will be required for this paper.

A ruler, a protractor and a pair of compasses may be required.

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen. Do not use gel pen or correction fluid.

Write your name, centre number and candidate number in the spaces at the top of this page.

Answer all the questions in the spaces provided.

If you run out of space, use the continuation page at the back of the booklet, taking care to number the question(s) correctly.

Take π as 3.14 or use the π button on your calculator.

INFORMATION FOR CANDIDATES

You should give details of your method of solution when appropriate.

Unless stated, diagrams are not drawn to scale.

Scale drawing solutions will not be acceptable where you are asked to calculate.

The number of marks is given in brackets at the end of each question or part-question.

You are reminded that assessment will take into account the quality of written communication (including mathematical communication) used in your answer to question **12**.



For E	xaminer's us	e only
Question	Maximum Mark	Mark Awarded
1	6	
2	4	
3	3	
4	4	
5	5	
6	4	
7	5	
8	7	
9	8	
10	6	
11	6	
12	8	
13	4	
14	12	
15	8	
16	3	
17	7	
TOTAL	MARK	





(a)	Complete the four of	entries in the follow	wing table to sh	now his bill for	these items.	
	Amount	Item		Cost (£)		
	4·5 kg	Beef @ £8.98 p	er kg	40.41		
	9 packs	Sausages @ £4.	39 per pack			
	packs	Stuffing @ 38p	per pack	3.04		
	12	Steaks @ £6.32	each			
						I
	Total					
(b)	Total He gets a 20% disco How much is this d	ount. iscount?				[4]
(b)	Total He gets a 20% disco How much is this d	ount. iscount? the appropriate e	stimate for eac	h of the followi		[4]
(b) Circl	Total He gets a 20% disco How much is this d e the quantity that is eth of a football pitch	ount. iscount? the appropriate e 120 km	stimate for eac	h of the followi	ng. 120 cm	[4]
(b) Circl Leng Weig	Total He gets a 20% disco How much is this d e the quantity that is gth of a football pitch ght of a man	ount. iscount? the appropriate e 120 km 80 kg	stimate for eac 120 m 80 g	h of the followi 120 mm 80 mg	ng. 120 cm 800 kg	[4]
(b) Circl Leng Weig Capa	Total He gets a 20% disco How much is this d e the quantity that is gth of a football pitch th of a man acity of a cup	bunt. iscount? the appropriate e 120 km 80 kg 2 litres	stimate for eac 120 m 80 g 10 cm ³	h of the followi 120 mm 80 mg 200 ml	ng. 120 cm 800 kg 1 ml	[4]



		Exami
3.	A box is placed on a scale. 8 identical blocks are then placed in the box.	only
	Find how much one block weighs.	
		[3]









Turn over.



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8. (a) Complete the following table, which shows the temperature at 11:00p.m., the change in temperature and the temperature at 11:00a.m. the next day, in each of three places. The first one has been done for you.

Place	Temperature at 11:00p.m.	Change	Temperature at 11:00a.m. next day
Swansea	-1°C	Up 4°C	3°C
New York	-2°C		0°C
Moscow		Up 5°C	-3°C

(b) Calculate 53% of 82.

(c) Each block shown in this tower is to have a number displayed on it.
 For each pair of blocks that are next to each other in the same row, the number on the block above them is the total of the numbers on the two blocks.
 Some numbers are already displayed.
 What number should be written on the box marked X?



[2]

Examiner only

[2]

[3]

Examiner only Describe in words the rule for continuing the following sequences. 9. (a)5 9 (i) 13 17 21 Rule: [1] 243 (ii) 81 27 9 3 Rule: [1] (b)A toy costs t pence. Write down, in terms of t, the cost of the toy in \pounds . (i) [1] On June 9th 2012, Beryl was m years old. Write down, in terms of m, her age on (ii) June 9th 2002. [1] Solve 3x - 7 = 11. (c)[2] (d)There is a connection between the x and y coordinates in the following sequence of points. (2, 5), (3, 6),(1, 4),(4, 7), ... Using the same connection, complete the following: (i) (5,) [1] (ii) Using the same connection, complete the following: (*x*,), giving your answer in terms of x. [1]

11



			43	30	75	54	62	46	24	82	
(a)	Find	the ra	inge of	the am	ounts	saved.					
											 [1]
(b)	Find	the m	ean of	the arr	ounts	saved.					
	TCAI		1								 [3]
(<i>c</i>)	lf Al	an hao the m	d savec	f the an	ss ever	y mont saved,	h, wha	t would	be		
	 (ii)	the ra	ange o	f the ar	nounts	saved.					 [1]
											 [1]







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I I J	n a forthcoming examination there are 1200 candidates, each sitting Paper A and Paper B. n 1 day, markers can either mark 60 Paper As or mark only half as many Paper Bs. The marking must be completed in 10 days.	
Γ	low many markers are needed to complete the marking in this time?	
		•
•••		
•••		
•••		•
•••		•
•••		
•••		
•••		
•••		•
•••		•
•••	[8]	. 1

3.	(a)	Using a ruler and a pair of compasses, construct an angle of 120° at the point A on the line below. [2]	
			-
			-
			H
			-
			-
			-
			-
		A	I
	<i>(b)</i>	Using a ruler and a pair of compasses, bisect the line <i>PQ</i> . [2]	' -
			-
			-
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		P Q	
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101111	
<i>(a)</i>	Miriam went to an exchange bureau to get some Pakistan rupees for her holiday.
	She exchanged £540 for 85000 Pakistan rupees. Complete the statement below, giving your answer correct to two decimal places.
(b)	'Exchange rate: £1 buys Miriam knows that when it is 1p.m. in London it is 6p.m. local time in Karachi, Pakistan Miriam is booked onto a flight leaving London on Tuesday at 13:50. The flight time is 7 hours 51 minutes.
<i>(b)</i>	'Exchange rate: £1 buys Pakistan rupees' [3] Miriam knows that when it is 1p.m. in London it is 6p.m. local time in Karachi, Pakistan Miriam is booked onto a flight leaving London on Tuesday at 13:50. The flight time is 7 hours 51 minutes. (i) On which day and at what local time should Miriam land in Karachi?

(1	 Miriam's flight actually arrived 7 hours 45 minutes after departure. The aeroplane flying speed between London and Karachi was 434 knots. Given that 1 knot is 1.85 km/h, calculate the flying distance between London an Karachi. Give your answer in kilometres. 	d
••••		
••••		
••••		
		••
	[5]



Approximate reports	conversions are often used t	o give a reading in more than	one unit in scientific
Use the inform	nation given below to compl	ete the tables.	
Use the inform <i>(a)</i>			
	degrees Celsius	degrees Fahrenheit	
	20	68	
	30	86	
	40	104	
	50		
	60	140	
	70	158	
	· · · · · · · · · · · · · · · · · · ·		[1]
(<i>b</i>)	kelvin	degrees Celsius	[1]
(<i>b</i>)	kelvin 0	degrees Celsius	[1]
(<i>b</i>)	kelvin 0 100	degrees Celsius	[1]
	kelvin 0 100 200	degrees Celsius 	[1]
(<i>b</i>)	kelvin 0 100 200 300	degrees Celsius 	[1]
(<i>b</i>)	kelvin 0 100 200 300 400	degrees Celsius 	[1]

kelvin	degrees Celsius	degrees Fahrenheit	
340			
 			••••••
 			••••••
			[0]

6. The diagram shows a rectangle <i>ABCD</i> .	Exami only
$A \qquad \qquad B \\ \hline \qquad \qquad$	
Diagram not drawn to scale	
Select 3 different pairs of congruent triangles shown in the diagram above and then complet the sentences below for your 3 selections.	te
Triangle is congruent to triangle	
Triangle is congruent to triangle	
Triangle is congruent to triangle	3]

17.	A factory production line packs buttons into bags. There are exactly 80 buttons packed into each bag. There is a mixture of different coloured buttons in each bag. A total of 600 bags of buttons were packed in a day.	∃Exam onl
	The first 100 bags were checked and it was found that a total of 1200 red buttons had been used. In the 600 bags of buttons it was found that the relative frequency of red buttons packed was	
	40%. Calculate the relative frequency of red buttons packed in the final 500 bags.	
	[7]	

(4370-04)



Question number	Additional page, if required. Write the question numbers in the left-hand margin.	Examiner only

