Surname	Centre Number	Candidate Number
First name(s)		0

GCSE



3310U30-1

A20-3310U30-1

TUESDAY, 3 NOVEMBER 2020 - MORNING

MATHEMATICS – NUMERACY UNIT 1: NON-CALCULATOR INTERMEDIATE TIER

1 hour 45 minutes

ADDITIONAL MATERIALS

The use of a calculator is not permitted in this examination. 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.

You may use a pencil for graphs and diagrams only.

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 additional page at the back of the booklet. Question numbers must be given for all work written on the additional page.

Take π as 3.14.

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.

In question 2(a), the assessment will take into account the quality of your linguistic and mathematical organisation, communication and accuracy in writing.



Question	Maximum Mark	Mark Awarded		
1.	5			
2.	12			
3.	6			
4.	3			
5.	3			
6.	11			
7.	6			
8.	11			
9.	3			
10.	3			
11.	6			
12.	6			
13.	5			
Total	80			



Blueberries cost £4 per kg	Strawberries cost £3.60 per kg	
Varium buys 1⋅5 kg of blueberries. She receives £6.80 change from a £20 n	ote.	
Calculate the mass of the strawberries th	nat Marium buys.	[5]
Strawberrycost = £20	- 6.8 - 1.9(4)	
	7.20	
STIALLIBERTY Mass = 1	7.20 - E3.60	
-	2 kg.	
	0	

	Suzy buys a The dog cost Pet insurance Food for a Ja Calculate the for the first y You must sho	Jack Russell d is her £450. e costs £18 per ick Russell cost e total cost of b year. ow all your wor	og. r month. its £7 per week. uying, insuring and feeding Suzy's dog king.	[4 + 2 OCW]
Bu	yıng	9	走450	
Ins	unng	<u> </u>	走18 × 12= 走216	
fer	eding	<u> </u>	圭7 x 52 = 是364	
	Tor	al = 49	jo + 216 + 364 £ 1030	
				······

3310U301 05

The height of a A fully-grown Ja	fully-grown Jack Russell dog is between 25 cm and 30 cm ack Russell dog has a mass of between 6 kg and 8 kg.	1.
Complete each	of the following statements.	
(i) 'The heig	ght of a fully-grown Jack Russell dog is between	
10	inches and <u>12</u> inches.'	[3
2.5cm	$\div 2.5 = 10$ inches	
30cm +	2.3 = 12 inches	
(ii) 'A fully-g	grown Jack Russell dog has a mass of between	21
(ii) 'A fully- <u>g</u> 13.02 6 X 9 x 2	grown Jack Russell dog has a mass of between pounds and17bpounds.' 2.2 = 13.21bs .2 = 17.61bs	ទ្រ
(ii) 'A fully- <u>g</u> 132 6.X 9.X 2	grown Jack Russell dog has a mass of between pounds and	ទ្រ
(ii) 'A fully- <u>9</u> <u>13.2</u> 6.X 9.X2	grown Jack Russell dog has a mass of between pounds and17bpounds.' 2.2 = 13.21bS .2 = 17.61bS	[3



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			57		N2			S								
	Holy	head				R.			54	2.		Rhyl	2			
		the second		~		5	1	1	Y	Colwy	n Bay	Z	1	Z	1 ca	
			9	5		P	Bang	or		5	1		R	Mold	12	
				M	1	K	\Box			Llanry	vst	-			•	
			3		SI	aernar	ion	\geq	Z		/		Ruthin		2	
			dau -		V {			1/			-		5	2		
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	Sec. 1	1	1 S		6	Port	made	9	1		\rightarrow	-				
	5	2		1						- /	<u> </u>		Llanr	haeadr		
		N	De										L	lanfylli	n /	
	p						L	T	Dolg	ellau				•	{	
	(ii)	Na	me th	e plac	cont Co	the ma	ap that	t is on	a bea	ring o	of 145°	from	Colwy	n Bay.	. [[2]
					C.D	<u>1 uu</u>	<u>L</u>	••••••								
(b)	An	other	map h	as a :	scale	of 1 : 2	20 000).								
	W	at dis	tance	does	this re	eprese	map. ent in r	netre	s?						ſ	[3]
					Ę	3-5	X	20.,	000	<u>.</u>	- 7	0,0	000			
n.	to r	nei	res	_	ج و_	FO (000) ÷	10	Ò	= 7	60.1	<u>n</u>			
					••••••											
							70	0	metre	s						

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	9	
(c)	A further 10 employees attempted to enter their correct password into a computer. The median number of attempts for all these 85 employees is 3.	Examiner only
	Did any of these 10 employees take fewer than 3 attempts to enter their correct password?	
	Yes No V	
	You must show working to support your answer. [1]	
	• 34+8 = 42 people had 1 or 2 attompts	
	" median is 43rd person	
••••••		
	·	
		100301
		68
09		I

(a)	Rowan is going to make some muffins.
	To make the muffins, he buys: • muffin cases, • ingredients,
	1 flag per muffin, for decoration.
	A pack of 16 multin cases costs 22p. The ingredients to make 6 mulfins cost 25p. A bag of 12 flags costs 40p.
	Rowan buys 4 bags of flags.
	Rowan plans to make as many muffins as possible and have no cases, ingredients or flags left over.
	He will sell the muffins for 30p each.
	Calculate Rowan's profit when he sells all the muffins he makes. You must show all your working. [8]
-t.ı	ags: 4 x 40 = (160p mares 4 x 12 = 48 cares
in	gredients: 48?6= 8 packs 8 x 25 200p
	1ses1 48-16=3 MG 3X22=66p
	To I al $\cos t = 42.6 p$
	Total salos = 30 x 48 = 1440p
	$a_{\rm rel} = 14400 - 11260 = 101110$
	propu - 1 170p - 920p 1014p



He sells t	of biscuits costs h hem for £4 a box.	im 80p to make.		
Calculate	the percentage pr	ofit Gerry makes or	each box sold.	[2]
	400-80 80	x 100 =	400°/.	
(c) Chloe m	akes flapiacks			
A pack o She sells For how Circle yo	f flapjacks costs Cl the flapjacks for a much does Chloe s ur answer.	nloe 60p to make. profit of 30%. sell a pack of flapjac	:ks?	[1]
90p	66p	72p	(78p	42p
		<u>,0x1,3</u>	= 78 p	

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	6							
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	2							
		•						
	0					Sunshine		
	Ő	2	4 6	8	10	(hours)		
C -		Quarter		- .	6			
	alurday	Sunday	Monday	Tuesday		n't tell		
00								
00	(ii) Rosie	savs						
	(ii) Rosie	says,						
	(ii) Rosie	says,	ositive correlatio	n hetween rei	nfall			
	(ii) Rosie	says, There will be a p nd the number of	ositive correlatio of hours of sunsh	n between rai	nfall			
	(ii) Rosie	says, 'here will be a p nd the number o	ositive correlatio of hours of sunsh	n between rai ine next week	nfall			
	(ii) Rosie	says, "here will be a p nd the number of ie correct?	ositive correlatio of hours of sunsh	n between rai ine next week	nfall			
	(ii) Rosie	says, There will be a p nd the number of ie correct? Yes	ositive correlatio of hours of sunsh	n between rain ine next week	nfall			
	(ii) Rosie	says, There will be a print of the number o	ositive correlatio of hours of sunsh	n between rain ine next week	nfall			
	(ii) Rosie	says, There will be a prind the number of ie correct? Yes	ositive correlatio of hours of sunsh	n between rain ine next week No e correla	nfall 2. D. Cn	[1]		
	(ii) Rosie	says, There will be a prind the number of the correct? Yes ust give a reason	ositive correlatio of hours of sunsh l for your answer. O NOO OUT IV	n between rain ine next week No e correla	e a con trois	[1]		
	(ii) Rosie	says, There will be a prind the number of ie correct? Yes ust give a reason	ositive correlatio of hours of sunsh of for your answer. On for your answer. On LO OLIV	n between rain ine next week No Po Correla Mashina	anfall	[1]		





	Albert, Terri and Gareth paid for a tent between them. The amount they each paid for the tent was in the ratio $1:4:6$ respectively. Gareth paid £66.36 towards the tent.							
	Calculate the cost of the tent. [3]							
	1:4:6							
	2 2 2 66.36							
llben	-66.36 ÷6 = £11.06							
Ten	i→ £11.06 × 4= £44.24							
	Total = 66.36 + 11.06 + 44.24 = \$121.66							
	$24 \times 1.05 = £25.2$ last year 25.2 × 1.05 = £26.46 this year							







Give th Comple	e row num ete the tab	bers in the	e spreadsh	neet of the	other 7 pt	upils who v	vould be se	elected.
	600	÷8 =	75.					[2]
			••••••					
Pupil	1st	2nd	3rd	4th	5th	6th	7th	8th
Row in the preadsheet	25th	100	175	250	325	400	475	550
(b) Explain	n how the	headteach	er selected	d the first p	oupil.	۰ –		[1]
Usealo	Lrand	om se	Lecoch	from	me ·	fust	t 5 pur	24.8



. ...



(a) Calculate the selling price of each ticket if Meinir plans the event for 50 people.	[3] Exa
50 people = £280	
£ 280 + 500 = £780	
paying room herself - £100	
· · · · · · · · · · · · · · · · · · ·	
per (1) (ket; $\frac{1}{2}680 \div 50 = \frac{1}{2}13.60$	
с.	
-	
(b) Calculate the selling price of each ticket if Meinir plans the event for 400 people. \vec{x}	[3]
200 people = f= \$20 por drinks	
= 200 = £3.60 per pason	
$for charity = 500 \div 400 = E1.25$	
$T_{1} = 2 = 2 = 2 = 2 = 2 = 2 = 2 = 2 = 2 = $	
- LI CG	
- <u>E4.8</u> 2	

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2.	(a)	A square piece of card measures 1 m by 1 m.	Ex		
		Calculate the area of this piece of card. Give your answer in standard form in mm ² . [2]			
		Im = 10000000			
		000,000 = 1,000,000			
	<u> </u>				
	(b)	Some fabric shrinks when it is washed.			
		A piece of fabric is washed twice.			
		After the first wash, the area of the fabric is 75% of the area of the original piece of fabric. After the second wash, the area of the fabric is 90% of the area of the fabric after the first wash.			
		After these two washes, the area of the fabric is 2700 cm ² .			
		Calculate the area of the original piece of fabric. [4]			
		2700			
		÷0.9			
		\checkmark			
		3000			
		÷ 0.75			
		4000 cm ²			
	20	• WJEC CBAC Ltd. (3310U30-1)			

		Examiner
13.	A box for mints is to be made in the shape of a hexagonal prism. The cross-section of the box is a regular hexagon. The volume of the box must be greater than 230000 mm ³ .	only
	Box for mints Cross-section	
	10 cm 30 mm 52 mm	
	Diagrams not drawn to scale	
	Using the measurements above, show that this would make a suitable box for the mints. You must show all your working.	[5]
	Area of cross section + (20)(04) = 390	
	$\frac{1 \text{mangle}}{6 \text{mangles}} = \frac{2(30)(26)}{390 \times 6} = \frac{2340 \text{mm}^2}{2340 \text{mm}^2}$	
	$y_{\rm clume} = 2340 \times 100 = 234000$	
	234000 > 230000	
	2	

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END OF PAPE

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