

MODULAR MATHEMATICS/CORE-1 TOPIC-Algebra & Functions

1	• (a) Write down the value of $8^{\frac{1}{3}}$.	Leave blank
	(1)	nonononononononononononononononononono
	(b) Find the value of $8^{-\frac{2}{3}}$.	***************************************
	(2)	***************************************
*		***************************************

	A CONTROL OF THE CONT	

	I EV M (C) A EL COMPANIO DE LA COMPANIO DEL COMPANIO DEL COMPANIO DE LA COMPANIO DEL COMPANIO DE LA COMPANIO DEL COMPANIO DE LA COMPANIO DEL COMPANIO DE LA COMPANIO DE LA COMPANIO DE LA COMPANIO DE LA COMPANIO DEL COMPANIO DE LA COMPANIO DEL COMPANIO DEL COMPANIO DE LA COMPANIO DEL COMPANIO	***************************************
	Mob: +974 55373670 / 55258711	***************************************
	Mob: +974 55373670 / 55258711 E-mail:rashed.saba@gmail.com	***************************************

	, , , , , , , , , , , , , , , , , , ,	***************************************

		-

		Q1
	(Total 3 marks)	Terramental de la constanta de



1/2

N23490A



2. (a) Find the value of $8^{\frac{4}{3}}$.

(b) Simplify $\frac{15x^{\frac{4}{3}}}{3x}$.

7

(2)

(2)

Mob: +974 55373670 / 55258711
E-mailtrasted.saba@gmail.com

Q2

ŕ	_
`	Ĩ.
ĺ,	2

Find the value of		
(a) $25^{\frac{1}{2}}$		√w- // (1)
(b) $25^{-\frac{3}{2}}$		(2)
		•
	REARRANGED &	
	RASHED CLORE	
	Mob: +974 55373670 / 55258714 E-mailtrashed.saba@gmail.com	•
		(Total 3 marks)

(a) Evaluate $(32)^{\frac{3}{5}}$, giving you	r answer as an integer.	Jn-12	(2)
(b) Simplify fully $\left(\frac{25x^4}{4}\right)^{-\frac{1}{2}}$			(2)
			7
	GEARRANGED CONTROL OF THE PARTY		
	TO RASHED MINISTER		
	Mob: +974 55373670 / 55258711 E-mail:rashed.saba@gmail.com		
			÷
•		•	
			2 2 F C 2



$\frac{x^{\frac{1}{2}}}{4x^2}$		JN-13	(2)
			(3)

•			
		•	
	-		

-
1
13

1. (a) Find the value of $16^{-\frac{1}{4}}$	(2)	Leav blanl
(b) Simplify $x(2x^{-\frac{1}{4}})^4$. (2)	***************************************
	Ja-11	***************************************
× ·		***************************************

TEARBANGED &		***************************************
EL L	*	***************************************
E/mrc/j		***************************************

THE WASTED STORM		***************************************
Mob: +974 55373670 / 55258711 E-mail:rashed.saba@gmail.com	/	

	,	Q1
	(Total 4 marks)	***************************************



1. (a) Write down the value of $125^{\frac{1}{3}}$.

(b) Find the value of $125^{-\frac{2}{3}}$.

C	>	
Ģ	7	`



Q1

Leave blank

(1)

(2)

	-W-9	(3)
	g	
		A111
± 2		
SPRANCE	T.	
A CONTRACTOR OF THE PARTY OF TH	y	
Mob: +974 55373670 / 55258711		
Mob: +974 55373670 / 55258711 E-mail:rashed.saba@gmail.com		
		·
A	-	
		







7. Given that $y = 2^x$,	
(a) express 4^x in terms of y .	
(b) Hence, or otherwise, solve	(1) Tu-15
$8(4^x) - 9(2^x) + 1 = 0$	
	(4)
	<i>\$</i>

0
•
Ĺ
-3.
1

1. Write			Leave blank
YVIIIC	$\sqrt{(75)}-\sqrt{(27)}$	JN-90	***************************************
in the form k^{-1}	\sqrt{x} , where k and x are integers.		
		(2)	
		•	
	The second secon		
	E MICA E		
	TASHED CHOUNT		
	Mob: +974 55373670 / 55258711 E-mail:rashed.saba@gmail.com	٧	N.
			,
			,
			·
			*
			Q1
		(Total 2 marks)	

SOUWEREN BINDER ON ON ON ON OUR STATE AND STATE OF STATE

3. (a) Simplify				
c. (a) Simplify				
	$\sqrt{50} - \sqrt{18}$			
	, <u> </u>			
giving your answer in the for	m $a\sqrt{2}$, where a	is an integer.		
				(2)
(b) Hence, or otherwise, simplify	7			
(5) Trenee, or otherwise, simplify				
	$\frac{12\sqrt{3}}{\sqrt{50}-\sqrt{18}}$			
	$\sqrt{50} - \sqrt{18}$			
			JN-16	
giving your answer in the for	m $b\sqrt{c}$, where b a	and c are integ	ers and $b \neq 1$	
				(3)
			·	
	described for the described of the second for the second s			***************************************
			Name of the Control o	
			***************************************	reconstruction, asianomorphism
	A region to the contract of th		9-9-9-00-00-00-00-00-00-00-00-00-00-00-0	
	***************************************			***************************************
				the transfer of the transfer o
				400 in Uniole common, de 10000
-			<u></u>	

Market 194, 194, 194, 194, 194, 194, 194, 194,		***************************************	***************************************	
				······

-				
				APPRICATE NATIONAL CONTRACTOR AND CO

2. (a) Expand and simplify $(7 + \sqrt{5})(3 - \sqrt{5})$.

(3)

(b) Express $\frac{7+\sqrt{5}}{3+\sqrt{5}}$ in the form $a+b\sqrt{5}$, where a and b are integers.

(3)

Ja-10

Mob: +974 55373670 / 55258711
E-mail:rashed.saba@gmail.com

Q2

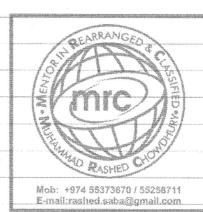
5. (a) Write $\sqrt{45}$ in the form $a\sqrt{5}$, where a is an integer.

(1)

(5)

(b) Express $\frac{2(3+\sqrt{5})}{(3-\sqrt{5})}$ in the form $b+c\sqrt{5}$, where b and c are integers.

7-16



2.	(a)	Express	√10 8	in	the	form	$a\sqrt{3}$,	where	a	is	an	integer.
----	-----	---------	--------------	----	-----	------	---------------	-------	---	----	----	----------

(b) Express $(2 - \sqrt{3})^2$ in the form $b + c\sqrt{3}$, where b and c are integers to be found.

(3)

(1)

Ja-07

Mob: +974 55373670 / 55258711
E-mail:rashed.saba@gmail.com

Q2

Leave	
LJOURN	
1-11-	
blank	

3	a.	1.0
3.	Sim	niit
C) W	N. J. I. A. I.	-/ A.S.A.

$$\frac{5-\sqrt{3}}{2+\sqrt{3}}$$

giving your answer in the form $a + b\sqrt{3}$, where a and b are integers.

2-08

(4)



Q3

Leave
blank

3.	Simp	life
J.	Simp	шу

ing vour answer ir	the form $p+q\sqrt{3}$, where p and q are	rational numbers
ing your answer in	the form $p+q \ \sqrt{3}$, where p and q are	rational numbers.
		Jn-11
		,
	Mob: +974 55373670 / 55258741 E-mail:rashed.saba@gmail.com	
		•
		*

2. (a) Simplify

$$\sqrt{32} + \sqrt{18}$$

giving your answer in the form $a\sqrt{2}$, where a is an integer.

(2)

(b) Simplify

$$\frac{\sqrt{32+\sqrt{18}}}{3+\sqrt{2}}$$

giving your answer in the form $b\sqrt{2+c}$, where b and c are integers.

(4)

Ja-12



Mob: +974 55373670 / 55258711 E-mail:rashed.saba@gmail.com 3. (i) Express

$$(5-\sqrt{8})(1+\sqrt{2})$$

in the form $a + b\sqrt{2}$, where a and b are integers.

(3)

(ii) Express

$$\sqrt{80} + \frac{30}{\sqrt{5}}$$

in the form $c\sqrt{5}$, where c is an integer.

	(3)

る	-1	3
		7

	that $\frac{2}{\sqrt{(12)-\sqrt(8)}}$ ca	n be written in the form $\sqrt{a} + \sqrt{b}$, wher	JN-12	(5
			,	
****				***************************************
. S	,		-	
······································				
			<i>p</i>	
		E CONTRACTOR OF THE PARTY OF TH		
		AEARRANGEA .		
*				
		18/J	-	
÷		SAME SAME		
		Mob: +974 55373670 / 55258711		
		E ASHED CHOTO		*************
		MASHEU Man, AGTA FEGYZOGA FEGEGYAA		······
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Mob: +974 55373670 / 55258711 E-mail:rashed.saba@gmail.com		

•				
	-			
			· ·	
			-	

		***************************************	***************************************
1.	Simplify		
	$\frac{7+\sqrt{5}}{\sqrt{5}}$		
	$\sqrt{5-1}$		
	giving your answer in the form $a + b\sqrt{5}$, where a and b are integers.	74-13	
			(4)

L					
					-
					2 2
				, ,	
,		•			
			-		
· .					
			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
	-				
		***************************************	***************************************		
		~			
		-		•	
			7		

Q1



1
12
1
1/3
,)

1.	Sin	nplify								
		$(2\sqrt{5})^2$								
										(1)
	(b)	$\frac{\sqrt{2}}{2\sqrt{5} - 3\sqrt{2}}$	giving y	our ansv	wer in th	e form a	$a + \sqrt{b}$, v	vhere <i>a</i> a	\mathbf{a} nd \mathbf{b} are in	ntegers.
		2 43 - 3 42								(+)
			e de l'annual de l	**** 800 0000 (*******************************					Ju-15	
			1							
		eren and a second control of the second cont	Strate (Miller Community of the Strate (Miller Community of th	h	- CO. A. +50000-500-0000-6000-000-000-000-000	· · · · · · · · · · · · · · · · · · ·			***************************************	
	***************************************		· · · · · · · · · · · · · · · · · · ·							
					**************************************					A-100-11-0-1-0-0-0-0-0-0-0-0-0-0-0-0-0-0
									3	
			***************************************			-			***************************************	Mariahankan akilikinik NA
				***************************************	***************************************	170 C			· · · · · · · · · · · · · · · · · · ·	1800 - Marie Paris, mar manager (1800 - 1800 - 1800 - 1800 - 1800 - 1800 - 1800 - 1800 - 1800 - 1800 - 1800 -
										-
	~**************************************					***************************************				

		COLUMN TO THE STATE OF THE STAT	1930 een een gemeente voorbeelde state van een een gemeente state van een een een een gemeente state van een e	***************************************		***************************************	Men erritorios da su recenha elemento el la su			No demonstrate parameter devotes degrees
										ACCOUNTS THE STATE OF THE STATE
econ estreta anoma	in ette o energen og en	***************************************	era	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	The state of the s	***************************************				
arradana, Ange				Transfer recommended to the state of the sta		***************************************	VIII.			
	-2	-								
<i>*</i> ***********************************	ZAN VII MARANANAN MARANA				~~~					anti a di
····	**************************************			-		***************************************	***************************************		**************************************	t de colorando en como como en que que como de
						384444		***************************************	**************************************	
**************	errora ar e manda su	San Commence of the Commence o	interest in Contract of the State of the Contract of the Contr							
······································	~~~~~~~~~		Announce of the state of the st	**************************************	***************************************			T Marianian and an analysis and		and the second s
***************************************					······································		<u></u>			

(a) Write $\sqrt{80}$ in the form $c\sqrt{5}$, where c is a positive constant	L.,	(1)
A rectangle R has a length of $(1 + \sqrt{5})$ cm and an area of $\sqrt{80}$	cm ² .	
(b) Calculate the width of R in cm. Express your answer in and q are integers to be found.	the form $p + q\sqrt{5}$, w	here p
	JN-14	(4)

	g	

(a) Expand and simplify $(4 + \sqrt{3})(4 - \sqrt{3})$.

(2)

(b) Express $\frac{26}{4+\sqrt{3}}$ in the form $a+b\sqrt{3}$, where a and b are integers.

Carlot Carlot

JN-6

(2)



Mob: +974 55373670 / 55258711 E-mail:rashed.saba@gmail.com

2	(a)	$(3\sqrt{7})^2$

1. Simplify

Leave blank

(b)	$(8+\sqrt{5})$	$(2-\sqrt{5})$

Ju-9 (3)

(1)

THE PRANCE OF THE PROPERTY OF

Mob: +974 55373670 / 55258711 E-mailtrashed.saba@gmail.com

Q1

	Ja-09	(2)
	~~°)	
	•	

-		
· · ·		
-		
	A CARRANGE OF	
	(4)033°A	***************************************
	E CARCO .	
	(Entering)	
	RASHED CIO	************
	Mob: +974 55373670 / 55258711 E-mail:rashed.saba@gmail.com	
3		

en e		************
аналуын олон олон олон олон олон олон олон ол		

1	K
C	12/

	. 7	Leav blan	e k
1. Simplify $(3 + \sqrt{5})(3 - \sqrt{5})$.	J _N -	(2)	
	SEARRANGED & SEARCH SEA		
	me		
	Mob: +974 55373670 55258711		
	Mob: +974 55373670 / 55258711 E-mail:rashed.saba@gmail.com	9	
		(Total 2 marks)	

				(3)

			•	illerentores.
			,	

		-	3 1	
			3	
		•		***************************************
			•	
				andrews and the second
				~~~~
			2	
			£	
2	· ·		*	
		4		***************************************
	manusus and a second se			
	***************************************			



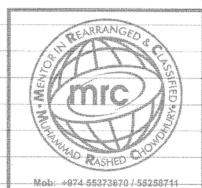
3

و

4	T .		1 , 1
	Factorise	comn	letely
.4.	i actorise	comp.	locory

$$x^3-4x^2+3x.$$

(3)



-- Mob: +974-55373670-/-55258744 E-mail:rashed.saba@gmail.com

(Total 3 marks)

Q1