

2 (a)	7	B1	1	
(b)	Col. Max 8, 13, 8, 11 Min = 8 Row Min - 7, - 6, 8, 8 Max = 8 ∴ Stable solution	M1 A1 A1	3	
(c)	Points (3,1)(4,1)(3,3)(4,3)	B2,1	2	
Total			6	

Q	Solution	Marks	Total	Comments																				
6 (a)	<table style="margin-left: auto; margin-right: auto;"> <tr> <td></td> <td></td> <td></td> <td style="border-left: 1px solid black;">Min</td> </tr> <tr> <td></td> <td>5</td> <td>1</td> <td style="border-left: 1px solid black;">1</td> </tr> <tr> <td></td> <td>2</td> <td>5</td> <td style="border-left: 1px solid black;">(2)</td> </tr> <tr> <td></td> <td>4</td> <td>-1</td> <td style="border-left: 1px solid black;">-1</td> </tr> <tr> <td style="border-top: 1px solid black;">Max</td> <td style="border-top: 1px solid black;">5</td> <td style="border-top: 1px solid black;">5</td> <td style="border-left: 1px solid black; border-top: 1px solid black;">(4)</td> </tr> </table> <p>$2 \neq 4 \Rightarrow$ no stable solution</p>				Min		5	1	1		2	5	(2)		4	-1	-1	Max	5	5	(4)	M1 A1	2	
			Min																					
	5	1	1																					
	2	5	(2)																					
	4	-1	-1																					
Max	5	5	(4)																					
(b)	$(5 \ 1 \ 3) > (4 \ -1 \ 2)$	E1	1																					
(c)(i)	<p>A chooses 1 p chooses 2 $1-p$</p> <p>∴ gain $5p+2(1-p)=3p+2$ $1p+5(1-p)=5-4p$ $3p+4(1-p)=4-p$</p> <p>Therefore $p = \frac{3}{7}$ Therefore A plays 1 with $\frac{3}{7}$ 2 with $\frac{4}{7}$</p>	M1 A1 A1 B1F B1F	7	or $3p+2=5-4p \quad p=\frac{3}{7}$ $3p+2=4-p \quad p=\frac{1}{2}$ $5-4p=4-p \quad p=\frac{1}{3}$ choosing the middle value																				
(ii)	Therefore the value is $3 \times \frac{3}{7} + 2 = \frac{23}{7}$	B1	1																					
Total			11																					

Q	Solution	Marks	Total	Comments
5 (a)	Not drop shot as $R1 > R2$ or $R3 > R2$	B1	2	
		E1		
(b)	D chooses B p D chooses L $1-p$	M1		
	If T chooses B $\Rightarrow 12p + 8(1-p)$ D $\Rightarrow 5p + 10(1-p)$ L $\Rightarrow 2p + 13(1-p)$	A1		
	B = $4p + 8$ (8, 12) D = $10 - 5p$ (10, 5) L = $13 - 11p$ (13, 2)			
		M1 A2		
	Max at X	B1		
	$4p + 8 = 10 - 5p$	B1		
	$p = \frac{2}{9}$	B1		
	David should play Boast 2 shots to every Lob 7 shots (2 : 7)	B1	8	Both
(c)	Value = $\frac{8}{9} + 8$ $= 8\frac{8}{9}$	B1F	1	
	Total		11	