

Q	Marking instructions	AO	Marks	Typical solution
10(a)	Uses $(\sqrt{k} + \sqrt{k+1})(\sqrt{k} - \sqrt{k+1})$ Or $(\sqrt{k} + \sqrt{k+1})(\sqrt{k+1} - \sqrt{k})$ Pl by $\pm[k - (k+1)]$ on denominator	1.1a	M1	$\frac{1}{\sqrt{k} + \sqrt{k+1}} \times \frac{\sqrt{k} - \sqrt{k+1}}{\sqrt{k} - \sqrt{k+1}}$ $= \frac{\sqrt{k} - \sqrt{k+1}}{k - (k+1)}$ $= \frac{\sqrt{k} - \sqrt{k+1}}{-1}$ $= \sqrt{k+1} - \sqrt{k}$
	Completes a reasoned argument to show given result Must see correct simplification of the denominator AG	2.1	R1	
	Subtotal		2	

Q	Marking instructions	AO	Marks	Typical solution
10(b)	Uses part (a) to rewrite given expression with no fractions	3.1a	M1	$\frac{1}{\sqrt{1} + \sqrt{2}} + \frac{1}{\sqrt{2} + \sqrt{3}} + \frac{1}{\sqrt{3} + \sqrt{4}}$ $= (\sqrt{2} - \sqrt{1}) + (\sqrt{3} - \sqrt{2}) + (\sqrt{4} - \sqrt{3})$ $= \sqrt{4} - \sqrt{1}$ $= 2 - 1$ $= 1$
	Obtains 1 Do not accept $\sqrt{4} - 1$ CSO	1.1b	A1	
	Subtotal		2	

	Question 10 Total		4	
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