IOPIC         ANSWERS           1         Expand and simplify $\sqrt{3}(\sqrt{6} + 5)$ [2 marks]		Surds and	Brackets	
$ \begin{array}{c}                                     $	SCAN ME			
2       Expand and simplify $\sqrt{5}(3 - \sqrt{10})$ [2 marks]	1	Expand and simplify $\sqrt{3}(\sqrt{6} + 5)$		[2 marks]
3 Expand and simplify $\sqrt{8}(\sqrt{2} + \sqrt{5})$ [2 marks] Answer 4 Expand and simplify $\sqrt{6}(\sqrt{8} + \sqrt{2})$ [3 marks]	2			[2 marks]
4 Expand and simplify $\sqrt{6}(\sqrt{8} + \sqrt{2})$ [3 marks]	3			[2 marks]
1st Answer	4			[3 marks]
	1 <sup>st</sup>	Answer		

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5	Expand and simplify $(\sqrt{2} + 1)(\sqrt{2} + 3)$	[2 marks]
	Answer	
6	Expand and simplify $(\sqrt{5} - 2)(\sqrt{5} + 6)$	[2 marks]
	Answer	
7	Expand and simplify $(7 - \sqrt{2})(\sqrt{2} + 10)$	[2 marks]
	Answer	
8	Expand and simplify $(\sqrt{11} + 1)^2$	[2 marks]
	Answer	
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Answer       [2 marks]         Expand and simplify $(\sqrt{6} + \sqrt{2})(\sqrt{6} - \sqrt{2})$ [2 marks]         Answer       [3 marks] $(\sqrt{5} + \sqrt{2})(\sqrt{10} - 2) = k\sqrt{2}$ where k is an integer.       [3 marks] $(\sqrt{5} + \sqrt{2})(\sqrt{10} - 2) = k\sqrt{2}$ where k is an integer.       [3 marks] $(\sqrt{5} + \sqrt{2})(\sqrt{10} - 2) = k\sqrt{2}$ where a and b are integers.       [3 marks] $k = $ [3 marks]
Expand and simplify $(\sqrt{6} + \sqrt{2})(\sqrt{6} - \sqrt{2})$ [2 marks
Answer
$(\sqrt{5} + \sqrt{2})(\sqrt{10} - 2) = k\sqrt{2} \text{ where } k \text{ is an integer.} \qquad [3 \text{ marks}]$ Work out the value of k. $k = \_$ $(2\sqrt{3} + 5)(3\sqrt{3} + 5) = a + b\sqrt{3} \text{ where } a \text{ and } b \text{ are integers.} \qquad [3 \text{ marks}]$ Work out the values of a and b. $a = \_ b = \_\_$
$(\sqrt{5} + \sqrt{2})(\sqrt{10} - 2) = k\sqrt{2} \text{ where } k \text{ is an integer.} \qquad [3 \text{ marks}]$ Work out the value of k. $k = \_$ $(2\sqrt{3} + 5)(3\sqrt{3} + 5) = a + b\sqrt{3} \text{ where } a \text{ and } b \text{ are integers.} \qquad [3 \text{ marks}]$ Work out the values of a and b. $a = \_ b = \_\_$
$(2\sqrt{3} + 5)(3\sqrt{3} + 5) = a + b\sqrt{3}$ where <i>a</i> and <i>b</i> are integers. [3 marks Work out the values of <i>a</i> and <i>b</i> . $a = \_ b = \_$
$(2\sqrt{3} + 5)(3\sqrt{3} + 5) = a + b\sqrt{3}$ where <i>a</i> and <i>b</i> are integers. [3 marks Work out the values of <i>a</i> and <i>b</i> . $a = \_ b = \_$
Turn over

13	$\sqrt{2}(\sqrt{8} + 5) + 5(3 - \sqrt{18}) = x - y\sqrt{2}$ where <i>x</i> and <i>y</i> are integers. Work out the values of <i>x</i> and <i>y</i> .	[4 marks
	<i>x</i> = <i>y</i> =	
14	$3\sqrt{5}(\sqrt{15} + \sqrt{5}) + \sqrt{6}(\sqrt{8} + \sqrt{24}) = p + q\sqrt{3}$ where p and q are integer Work out the values of p and q.	ers. [4 marks
	<i>p</i> = <i>q</i> =	
15	Expand and simplify $(\sqrt{3} + 4)^3$	[4 marks
1st	Answer	

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16	Show clearly that $(\sqrt{3} + 2)^2 + (5 - 2\sqrt{3})^2 - (8 - \sqrt{3})^2$ is equal to an in	teger. [5 marks]
	$\sqrt{10}(\sqrt{2} + \sqrt{10}) + \sqrt{3}(5\sqrt{12} + \sqrt{15})$	
17	$\frac{\sqrt{10}(\sqrt{2} + \sqrt{10}) + \sqrt{3}(5\sqrt{12} + \sqrt{15})}{(\sqrt{7} + 2)(\sqrt{7} - 2)} = a + \sqrt{5} \text{ where } a \text{ is an integer.}$	
	Work out the value of <i>a</i>	[6 marks]
	<i>a</i> =	r
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