

Question Number	Scheme	Marks
3a	$\frac{8-\sqrt{15}}{2\sqrt{3}+\sqrt{5}} \times \frac{2\sqrt{3}-\sqrt{5}}{2\sqrt{3}-\sqrt{5}} = \frac{16\sqrt{3}-8\sqrt{5}-2\sqrt{45}+\sqrt{75}}{12-5}$	M1
	e.g. $\frac{21\sqrt{3}-14\sqrt{5}}{7}$ $3\sqrt{3}-2\sqrt{5}$	dM1 A1
		(3)
b	$(x+5\sqrt{3})\sqrt{5} = 40-2x\sqrt{3} \Rightarrow x\sqrt{5}+2x\sqrt{3} = 40-5\sqrt{15}$	M1
	$(x =) \frac{40-5\sqrt{15}}{2\sqrt{3}+\sqrt{5}}$	A1
	$(x =) 15\sqrt{3}-10\sqrt{5}$	A1ft
		(3)
		(6 marks)

Question Number	Scheme	Marks
1(a)(i)	(2, 12)	B1
(ii)	(2, 15)	B1
		(2)
(b)	$k = 3, k = 5$	M1 A1
		(2)
(c)	$(x =) -5$	B1
		(1)
		(5 marks)

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2.	Attempts both sides as powers of 3 $\frac{3^x}{3^{4y}} = 3^3 \times 3^{0.5} \Rightarrow 3^{x-4y} = 3^{3.5}$	M1
	Sets powers equal and attempts to make y the subject : $x-4y = 3.5 \Rightarrow y = \dots$	dM1
	$y = \frac{1}{4}x - \frac{7}{8}$	A1
		(3) (3 marks)

Question Number	Scheme	Marks
2a	$\frac{1}{8}x$	B1
		(1)
b	$\frac{1}{256}x^{\frac{3}{2}}$	B1
		(1)
c	$\left(\frac{1}{2}\left(\frac{1}{64}x^2 \times \frac{16}{\sqrt{x}}\right)\right)^{\frac{4}{3}} = \left(\frac{1}{8}x^{\frac{3}{2}}\right)^{\frac{4}{3}} = 16x^{-2}$	M1A1
		(2)
		(4 marks)

(c)