15 (a)	eg $x = 0.372....$ **and** $100x = 37.272....$ **or** $10x = 3.72....$ **and** $1000x = 372.72....$		2	M1	For 2 recurring decimals that when subtracted give a whole number or terminating decimal eg $100x = 37.272....$ and $x = 0.372....$ or $1000x = 372.72....$and $10x = 3.72....$ **with intention to subtract. (**At least one of the numbers must be shown with recurring dots or to at least 5 sf) **or** $0.3 + 0.0727\ldots$ **and** eg $y = 0.072....$, $100y = 7.2727....$ with intention to subtract.
	eg $100x - x = 37.272.... - 0.372.... = 36.9$ **and** $\frac{36.9}{99} = \frac{41}{110}$ **or** $1000x - 10x = 372.72.... - 3.72.... = 369$ **and** $\frac{369}{990} = \frac{41}{110}$ **or** $100y - y = 7.2727.... - 0.072.... = 7.2$ **and** $\frac{7.2}{99}$ **and** $\frac{3}{10} + \frac{7.2}{99} = \frac{297+72}{990} = \frac{369}{990} = \frac{41}{110}$ oe *Working required*	Shown		A1	Dep on M1 and **use of algebra** for completion to $\frac{41}{110}$ NB: this is a 'show that' question and requires students to clearly show steps that could be used to change the recurring decimal into the given fraction– some may have slight variations to this mark scheme but if the stages can be clearly followed then marks should be awarded.

	Award method marks in either order				
(b)	eg $\frac{\sqrt{125}+\sqrt{80}}{\sqrt{3}}\times\frac{\sqrt{3}}{\sqrt{3}}$ or $\frac{\sqrt{375}+\sqrt{240}}{3}$ **or** $\frac{5\sqrt{5}+4\sqrt{5}}{\sqrt{3}}\times\frac{\sqrt{3}}{\sqrt{3}}$ or $\frac{5\sqrt{15}+4\sqrt{15}}{3}$ or $\frac{9\sqrt{5}}{\sqrt{3}}\times\frac{\sqrt{3}}{\sqrt{3}}$ or $\frac{9\sqrt{15}}{3}$ or $\frac{9\sqrt{5}}{\sqrt{3}}=\frac{\sqrt{405}}{\sqrt{3}}$ oe **or**		3	M1	For rationalising by multiplying by $\frac{\sqrt{3}}{\sqrt{3}}$ or $\frac{-\sqrt{3}}{-\sqrt{3}}$ **or** for $\frac{9\sqrt{5}}{\sqrt{3}}=\frac{\sqrt{405}}{\sqrt{3}}$
	eg $\frac{\sqrt{125}+\sqrt{80}}{\sqrt{3}}=\frac{5\sqrt{5}+4\sqrt{5}}{\left(\sqrt{3}\right)}$ or $\frac{\sqrt{375}+\sqrt{240}}{3}=\frac{5\sqrt{15}+4\sqrt{15}}{3}$ (must see $\frac{\sqrt{375}+\sqrt{240}}{3}$ before simplifying)			M1	For simplifying the individual surds – either before rationalisation or after rationalisation (for the given surds, we do not need to see the denominator)
	Working required	$\sqrt{135}$		A1	dep on M2 SCB1 for $\sqrt{135}$ gained with no method marks awarded SCB2 for $\sqrt{135}$ and rationalisation also shown or $\sqrt{135}$ and simplifying the numerator shown
					Total 5 marks