15 a	E.g. $x = 4.57....$ **and** $100x = 457.57....$ **or** $10x = 45.757....$ **and** $1000x = 4575.7....$ **or** $x = 0.57....$ **and** $100x = 57.57....$ **or** $10x = 5.757....$ **and** $1000x = 575.7....$		2	M1	for selecting 2 recurring decimals that when subtracted give a whole number or terminating decimal eg 453 or 4530 etc eg $100x = 457.57....$ and $x = 4.57....$ or $1000x = 4575.7....$and $10x = 45.757....$ with intention to subtract. (If recurring dots not shown then allow $10x = 45.757$, $100x = 457.57$, and $1000x = 4575.7$ to at least 5sf) **or** $4 + 0.5757$ **and** eg $x = 0.57....$, $100x = 57.57....$ with intention to subtract.
	E.g. $100x - x = 457.57.... - 4.57.... = 453$ **and** $\frac{453}{99} = \frac{151}{33}$ or $4\frac{19}{33}$ **or** $1000x - 10x = 4575.7.... - 45.757.... = 4530$ **and** $\frac{4530}{990} = \frac{151}{33}$ or $4\frac{19}{33}$ **or** $100x - x = 57.57.... - 0.57.... = 57$ **and** $\frac{57}{99}$ or $\frac{19}{33}$ (so) $4.\dot{5}\dot{7} = 4\frac{19}{33}$ **or** $1000x - 10x = 575.7.... - 5.757.... = 570$ **and** $\frac{570}{990}$ or $\frac{57}{99}$ or $\frac{19}{33}$ (so) $4.\dot{5}\dot{7} = 4\frac{19}{33}$	Shown		A1	for completion to $\frac{151}{33}$ or $4\frac{19}{33}$

15 b	E.g. $\frac{2}{6-3\sqrt{2}}\times\frac{6+3\sqrt{2}}{6+3\sqrt{2}}$ or $\frac{2}{6-3\sqrt{2}}\times\frac{-6-3\sqrt{2}}{-6-3\sqrt{2}}$		3	M1	for rationalising the denominator by multiplying numerator and denominator by $6+3\sqrt{2}$ (or $-6-3\sqrt{2}$)
	$\frac{12+6\sqrt{2}}{36-18\sqrt{2}+18\sqrt{2}-18}$ or $\frac{12+6\sqrt{2}}{18}$ or $\frac{12+6\sqrt{2}}{6^2-\left(3\sqrt{2}\right)^2}$ or $\frac{12+6\sqrt{2}}{6^2-9\times2}$			M1	(numerator may be expanded or denominator may be 4 terms which need to be all correct)
		$\frac{2+\sqrt{2}}{3}$		A1	or for stating $a = 2$ and $b = 3$ for $\frac{2+\sqrt{2}}{3}$ from correct working dep on M2
					Total 5 marks