TAKE 5 ... RECURRING DECIMALS

JustMaths

Q1.

Question	Working	Answer	Notes
		proof leading to $\frac{7}{22}$	M1 for finding two correct recurring decimals that when subtracted would result in a terminating decimal or integer with intention to subtract eg $x = 0.31818...$, $100x = 31.81818...$ A1 fully correct proof

Q2.

Question	Working	Answer	Mark	Notes
		Proof	M1	for a fully complete method as far as finding two correct decimals that, when subtracted, give a terminating decimal (or integer) and showing intention to subtract, e.g. $9x = 3.9$
			A1	correct working to conclusion

Q3.

PAPER: 5MB2H_01				
Question	**Working**	**Answer**	**Mark**	**Notes**
	$x = 0.15555\ldots$ $10x = 1.5555\ldots$ $9x = 1.4$ $x = \frac{1.4}{9} = \frac{14}{90}$ OR $x = 0.1 + y$ where $y = 0.0555\ldots$ $10y = 0.5555\ \ldots$ $100y = 5.5555..$ $90y = 5$ so $y = 5/90$ $x = 0.1+5/90= 1/10+ 5/90$	$\frac{7}{45}$	3	M1 for $0.155(5\ldots)$ or $0.1+ 0.055(5\ldots)$; This can be implied in subsequent working. M1 for 2 correct recurring decimals which when subtracted will leave an integer or a terminating decimal number with a correct fraction for their 2 recurring decimals A1 for $\frac{7}{45}$ [SC: B1 for an answer of $\frac{15}{99}$ oe, with or without working]

Q4.

PAPER: 1MA0_1H				
Question	**Working**	**Answer**	**Mark**	**Notes**
		Proof	3	M1 for $(x =)\ 0.04545(...)$ or $1000x = 45.4545(...)$, accept $1000x = 45.\dot{4}\dot{5}$ or $100x = 4.54545(...)$, accept $100x = 4.\dot{5}\dot{4}$ or $10x = 0.4545(...)$,accept $10x = 0.\dot{4}\dot{5}$ M1 for finding the difference between two correct, relevant recurring decimals for which the answer is a terminating decimal A1 (dep on M2) for completing the proof by subtracting and cancelling to give a correct fraction eg $\frac{45}{990} = \frac{1}{22}$ or $\frac{4.5}{99} = \frac{1}{22}$

Q5.

	Working	Answer	Mark	Notes
	$x = 0.7505050\ldots$ $10x = 7.505050\ldots$ $1000x =$ $750.505050\ldots$ $990x = 743$ OR $100x =$ $75.0505050\ldots$ $99x = 74.3$	$^{743}/_{990}$	3	M1 for 0.75050(50….) or 0.7 + 0.050(5050….) M1 (dep) for two recurring decimals that, when subtracted, leave a terminating decimal A1 for $^{743}/_{990}$