Question	Answer						Marks	Guidance
(a)	x	2	3	4	5	6	**B1**	Table with correct X values and at least one probability. Condone any additional X values if probability stated as 0.
	p	$\dfrac{1}{36}$	$\dfrac{4}{36}$	$\dfrac{10}{36}$	$\dfrac{12}{36}$	$\dfrac{9}{36}$	**B1**	3 correct probabilities linked with correct outcomes. Accept 3 sf decimals.
		0.02778	0.1111	0.2778	0.3333	0.25	**B1**	2 further correct probabilities linked with correct outcomes. Accept 3 sf decimals.
							3	**SC B1** for 5 probabilities ($0 < p < 1$) that sum to 1 with less than 3 correct probabilities.

Question	Answer	Marks	Guidance
(b)	If method FT from *their* incorrect **(a)**, expressions for E(X) and Var(X) must be seen at the stage shown in **bold** (or less simplified) in the scheme with all probabilities < 1.		
	$$\left[E(X) = \frac{1 \times 2 + 4 \times 3 + 10 \times 4 + 12 \times 5 + 9 \times 6}{36} = \right] \; \frac{\mathbf{2 + 12 + 40 + 60 + 54}}{\mathbf{36}}$$	**M1**	Accept unsimplified expression. May be calculated in variance. FT *their* table with 4 or more probabilities summing to $0.999 \leqslant$ total $\leqslant 1$ ($0 < p < 1$).
	$$\left[\mathrm{Var}(X) = \frac{1 \times 2^2 + 4 \times 3^2 + 10 \times 4^2 + 12 \times 5^2 + 9 \times 6^2}{36} - \left(their\; \mathrm{E}(X)\right)^2 = \right]$$ $$\frac{\mathbf{1 \times 4 + 4 \times 9 + 10 \times 16 + 12 \times 25 + 9 \times 36}}{\mathbf{36}} - \left(their\; \frac{\mathbf{14}}{\mathbf{3}}\right)^{\mathbf{2}}$$ $$\left[\frac{4 + 36 + 160 + 300 + 324}{36} - \left(their\; \frac{14}{3}\right)^2 \right]$$	**M1**	Appropriate variance formula using *their* (E(X))^2 value. FT *their* table with 3 or more probabilities ($0 < p < 1$) which need not sum to 1 and the calculation in **bold** (or less simplified) seen.
	$E(X) = \dfrac{168}{36}, \; \dfrac{14}{3}, \; 4.67$ $\mathrm{Var}(X) = \dfrac{10}{9}, \; 1\dfrac{1}{9}, \; 1.11, \; \dfrac{1440}{1296}$	**A1**	Answers for E(X) and Var(X) must be identified. E(X) may be identified by correct use in Variance. Condone E, V, μ, σ^2 etc. If M0 earned **SC B1** for identified correct final answers.
		3	