Question Number	Scheme		Marks
5			
	$\begin{array}{\|c\|c\|c\|c\|}\hline x & 1 & 3 & 6 \\ \hline \mathrm{P}(X=x) & \frac{1}{2} & \frac{1}{3} & \frac{1}{6} \\ \hline \end{array}$		M1
	$\mathrm{E}(X) = 2.5$		A1
	$\mathrm{Var}(X) = 9.5 - 2.5^2 = 3.25$		M1
	$\overline{X}$ = mean of 60 rolls		
	$\mathrm{P}\left(\overline{X} > 2.75\right) \approx \mathrm{P}\left(Z > \frac{2.75-2.5}{\sqrt{3.25/60}}\right)$ [by CLT]		M1A1
	$= 1 - \mathrm{P}\left(Z < 1.074..\right)$		
	$= 1 - 0.8586$ [= 0.1414] [0.1423 from tables]		M1
	$10 \times \left("0.1414"\right)^2 \left(1 - "0.1414"\right)^3$		M1
	= 0.1265….	awrt 0.127/0.128	A1
			(8)
			Total 8

Notes

M1	Setting up the distribution – may be implied by correct E(X) or Var(X)
A1	For E(X)
M1	If distribution given allow 9.5 – "(their E(X))^2 or "their E(X^2)– "(their E(X))^2. If no working shown it must be correct. Sight of N(2.5, $\frac{13}{240}$) implies M1A1M1
M1	Standardising using their E(X) and Var(X) $\frac{2.75-"2.5"}{\sqrt{"3.25"/60}}\left[= \frac{0.25}{\text{awrt } 0.233}\right]$
A1	$\frac{2.75-2.5}{\sqrt{3.25/60}}$ or awrt 1.07
M1	Finding the correct area $p < 0.5$ (may be implied by a correct answer)
M1	$10 \times \left(" p"\right)^2 \left(1 - " p"\right)^3$ with their p
A1	awrt 0.127 / 0.128