

Question			Answer	Mark	AO	Guidance
12	(a)		$P(X \leq 11) = 0.0777$ (3 sf)	M1	3.3	For indication of B(100, 1/6) used and an attempt at any $P(X \leq a)$ in the right region, i.e. finding $P(X \leq a)$ for any $a \leq 16$ <b>BC</b>
			$P(X \leq 10) = 0.0427$ (3 sf)	M1	3.4	For finding both $P(X \leq 10)$ and $P(X \leq 11)$ <b>BC</b> (allow numerical slip if clear indication that the right distribution is used)
			Largest value of $X$ is 10	A1	3.4	Allow < in both cases if values are correct.
				[3]		Dep on both M marks so must have found both $P(X \leq 11)$ and $P(X \leq 10)$ correctly (condone values correct to 2sf throughout but do not accept answers that are not correct to 2sf, e.g. 0.077 or 0.042 unless there is a clear indication of truncation such as ‘...’)
12	(b)		0.0427 (3 sf)	B1FT	3.4	FT their $P(X \leq 10)$ (allow 2sf)
				[1]		Accept 4.27%