9			H_0: $p = \frac{1}{6}$	B1	1.1		
			H_0: $p > \frac{1}{6}$ where p = P(2 on one throw)	B1	2.5	**B1B0** one error eg undefined p or two-tail	
			B(35, $\frac{1}{6}$)	M1	3.3	stated or implied unless clearly using N( )	
			$P(X \geq 10) = 1 - P(X \leq 9)$ or $P(X \geq 11) = 1 - P(X \leq 10)$	M1	1.1a	≥ 1 of these probabilities stated	or $P(X \leq 9)$, $P(X \leq 10)$
			$P(X \geq 10) = 0.055$	A1	2.1	**BC**	$P(X \leq 9) = 0.945$
			$P(X \geq 11) = 0.023$	A1	3.4	**BC**	$P(X \leq 10) = 0.977$
			(0.04 lies between these hence) rejection region is $X \geq 11$ Allow eg $a \geq 11$	A1	2.2a	dep $\geq$ one of above probs seen & correct	(0.96 between these) rej'n region is $X \geq 11$
			<u>Special case, using N~Bin; Method A</u> H_0: $\mu = \frac{35}{6}$	B1	1.1		

Question			Answer	Mks	AO	Guidance	
			$H_0: \mu > \frac{35}{6}$ where μ = pop mean no. of 2's	**B1**	**2.5**	**B1B0** one error eg undefined μ or two-tail	
			$N(\frac{35}{6}, \frac{175}{36})$ or N(5.833, 4.861) soi	**M1**	**3.3**	Allow incorrect variance	$P(X < 9.5)$
			$P(X \geq 10) = 1 - P(X < 9.5)$ or $P(X \geq 11) = 1 - P(X < 10.5)$	**M1**	**1.1a**	≥ 1 of these probabilities attempted	or $P(X < 10.5)$
			$P(X \geq 10) = 0.048$	**A0**	**2.1**	**BC**	$P(X < 9.5) = 0.952$
			$P(X \geq 11) = 0.017$	**A1**	**3.4**	**BC**	$P(X < 10.5) = 0.983$
			(0.04 lies between these hence)				(0.96 between these)
			rejection region is $X \geq 11$	**A1**	**2.2a**	dep $\geq$ one of above probs seen & correct	rej'n region is $X \geq 11$
			<u>Special case, using N~Bin; Method B</u>				
			$H_0: \mu = \frac{35}{6}$	**B1**	**1.1**		
			$H_0: \mu > \frac{35}{6}$ where μ = pop mean no. of 2's	**B1**	**2.5**	**B1B0** one error eg undefined μ or two-tail	
			$N(\frac{35}{6}, \frac{175}{36})$ or N(5.833, 4.861) soi	**M1**	**3.3**	Allow incorrect variance	
			$P(X > a) = 0.04$ soi	**M1**	**1.1a**	$z = \phi^{-1}(0.96)$ $(= 1.751)$	
			$\frac{35}{6} + 1.751 \times \sqrt{\frac{175}{36}}$	**A1**	**2.1**	dep $\phi^{-1}(0.96)$ attempt. May be implied **BC**	
			= 9.69 or 9.7	**A0**	**3.4**		
			rejection region is $X \geq 11$	**A1**	**2.2a**		
				[7]			