

Question		Answer	Marks	AO	Guidance
12	(a)	$H_0: p = 0.08$ and $H_1: p < 0.08$	B1	1.1	Requires both. Can be stated in words. NOTE: $H_0 = 0.08$ etc is B0

Question			Answer	Marks	AO	Guidance
			p is the probability that a person selected at random has blue eyes	B1	2.5	Accept ' proportion ' instead of probability but not number/amount etc. Must have highlighted words to score B1 here
				[2]		
12	(b)		0.057(43...) BC	B1	1.1	By calculator- awrt 0.057
				[1]		
12	(c)		<p>$0.057 > 0.05$</p> <p>A CR approach is possible here too where the CR is $X \leq 2$ then '3 not in CR' etc.</p> <p>do not reject H_0 or accept H_0 or reject H_1</p> <p>insufficient evidence to suggest that the probability that a person selected at random has blue eyes is less than 0.08</p> <p>OR</p> <p>insufficient evidence to suggest that the probability that a person selected at random has blue eyes has decreased.</p> <p>OR</p> <p>insufficient evidence to support the medical researchers' belief.</p>	M1	3.4	<p>their 0.057 correctly compared with 0.05</p> <p>NOTE: comparing $p(X = 3) = 0.03849$ with 0.05 scores 0 in part (c)</p>
				M1	1.1	FT consistent conclusion with their probability
				A1	2.2b	<p>Highlighted words needed. Must be a full contextual conclusion. Accept proportion instead of probability but NOT number/amount.</p> <p>No assertive statements e.g. conclusions with 'shows that' or 'proves that' etc score A0</p> <p>Accept 'not enough evidence' for 'insufficient evidence'. The researcher believed the true probability was less than 0.08 in the question so accept this equivalent statement.</p>
				[3]		