Question Number	Scheme	Marks
2(a)	**List** of **all** the **customers** (who eat in the restaurant)	B1
		(1)
(b)	**Customer(s)** (who ate in the restaurant)	B1
		(1)
(c)	Advantage: more/total accuracy, unbiased	B1
	Disadvantage: time consuming to obtain data and analyse it, expensive, difficult to ensure entire population is included	B1
		(2)
(d)	Let X = the number of customers who would like more choice on the menu	
	$H_0: p = 0.3$ $H_1: p > 0.3$	B1
	$X \sim B(50, 0.3)$ $P(X \geq 20) = 1 - P(X \leq 19)$ or CR $P(X \geq 21) = 1 - P(X \leq 20)$ 0.9522 $= 1 - 0.9152$ $= 1 - 0.9522$ $= 0.0848$ $X \geq 21$	M1 A1
	Do not reject H_0/ not significant/20 is not in critical region	M1
	The percentage of **customers** who would like more **choice** on the menu is not more [than 30%] or There is no evidence to reject **Bill's belief**	A1ft
		(5)

	Notes	Total 9
(a)	**B1**	Need the idea of list/register/data base and customer(s). Do not allow customer's opinions. 'ALL' may be implied. Do not allow a partial list e.g. A list of 50 customers
(b)	**B1**	Customer(s) Do not allow customer's opinion
(c)	**B1**	If not labelled, assume the response refers to a census Correct advantage (If not labelled as advantage then take the first answer as the advantage)
	B1	Correct disadvantage (If not labelled as disadvantage then take the second answer as the disadvantage)
(d)	**B1**	Both hypotheses in terms of p or π
	M1	For writing or using $1 - P(X \leq 19)$ or $1 - P(X \leq 20)$
	A1	Awrt 0.0848 or a correct CR (allow any letter)
	M1	For a correct non contextual statement. Ft their probability/CR provided a binomial distribution is used. Do not allow contradictory non contextual statements. May be implied by a correct contextual statement on its own
	A1ft	For a correct contextual statement. Must mention customers and choice or Bill and belief/believes. Ft their probability/CR