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2. A university awards its graduates a degree in one of three categories, Distinction, Merit or Pass.

Table 1 shows information about a random sample of 200 graduates from three departments, Arts, Humanities and Sciences.

	Arts	Humanities	Sciences	Total
Distinction	22	32	38	92
Merit	15	30	13	58
Pass	18	15	17	50
Total	55	77	68	200

Table 1

Xiu wants to carry out a test of independence between the category of degree and the department.

Table 2 shows some of the values of $\frac{(O-E)^2}{E}$ for this test.

	Arts	Humanities	Sciences	Total
Distinction	0.43	0.33	1.44	2.20
Merit	0.06	2.63	2.29	4.98
Pass				

Table 2

(a) Complete Table 2

(4)

(b) Hence, complete Xiu's hypothesis test using a 5% level of significance. You should state the hypotheses, the degrees of freedom and the critical value used for this test.

(5)

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Question 2 continued

Q2

(Total 9 marks)