

- 7 In the region of Arka, the total number of households in the three villages Reeta, Shan and Teber is 800. Each of the households was asked about the quality of their broadband service. Their responses are summarised in the following table.

		Quality of broadband service		
		Excellent	Good	Poor
Village	Reeta	75	118	32
	Shan	223	177	40
	Teber	12	60	63

- (a) (i) Find the probability that a randomly chosen household is in Shan and has poor broadband service. [1]

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- (ii) Find the probability that a randomly chosen household has good broadband service given that the household is in Shan. [2]

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In the whole of Arka there are a large number of households. A survey showed that 35% of households in Arka have no broadband service.

- (b) (i) 10 households in Arka are chosen at random.

Find the probability that fewer than 3 of these households have no broadband service. [3]

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[illegible]

- (ii)** 120 households in Arka are chosen at random.

Use an approximation to find the probability that more than 32 of these households have no broadband service. [5]

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