

Exercise 1

Calc. : ✓

On a certain remote island, 25 per cent of the population have the gene Hs which is known to protect against malaria.

A random sample of 32 people have their blood tested to see if they have this gene.

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| 1. Show that the sample will satisfy the conditions for a Bernoulli trial. | 2 marks |
| 2. Determine the probability that the number that are found to have <u>Hs</u> is: | |
| (a) Exactly 5 | 1 mark |
| (b) Fewer than 10 | 1 mark |
| (c) At least 6 but at most 12 | 2 marks |
| (d) More than the mean value for the distribution. | 2 marks |
| 3. Will the conditions for a Bernoulli trial always be true for the population of the island? Write one or two sentences to justify your answer. | 2 marks |