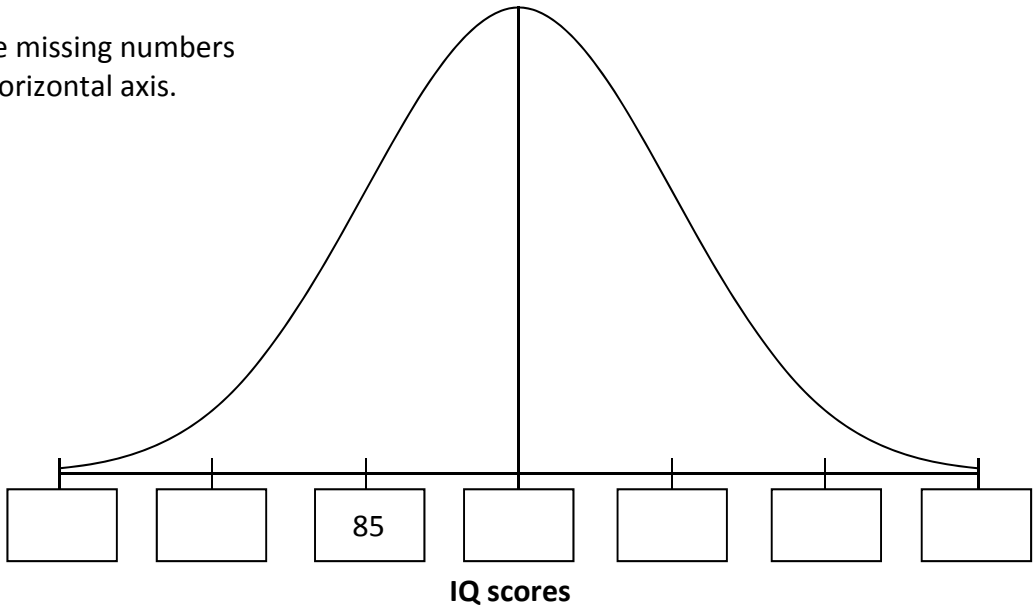
Question 5 **(25 marks)**

(a) In a survey, the IQ scores of 1200 people were recorded. The mean score was 100 points and the standard deviation was 15 points. Assuming that IQ scores are normally distributed, the data are shown on the diagram below.

(i) Fill in the missing numbers on the horizontal axis.



(ii) A person is chosen at random from those surveyed. Use the Empirical Rule to find the probability that this person has an IQ score between 70 and 130 points.

(iii) Use the Empirical Rule to find the approximate number of people surveyed with an IQ score of between 85 and 115 points.

(b) A class of 24 pupils is made up of 10 boys and 14 girls. Chemistry is studied by 6 of the boys and 9 of the girls. A pupil is chosen at random from the class. Find the probability that the pupil chosen is a boy or is a pupil who does **not** study chemistry.