Solutions
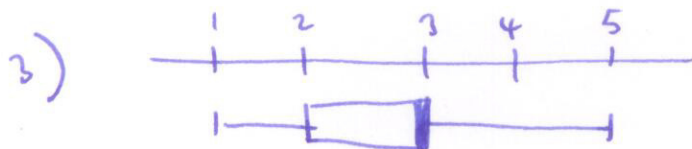
Here is the number of children the mother of each student in the class had:

$\{1, 1, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 3, 4, 4, 5, 5\}$

(1) Write down the five number summary for this data set, i.e. minimum, Q_1, median, Q_3, max.
(2) What is the interquartile range (IQR)?
(3) Sketch the box plot for this data set.
(4) What proportion of the data is meant to lie inside the interquartile range?
(5) What proportion of the data points actually lie inside the interquartile range, i.e. are greater than or equal to Q_1 and also less than or equal to Q_3?

1)

min	Q_1	median	Q_3	max
1	2	3	3	5

2) $IQR = Q_3 - Q_1 = 1$

3)

4) 50%

5) $\frac{27}{31} \approx 80\%$.