n	Locating Lower Quartile, Median and Upper Quartile	Read off value at position		
6	I I I I I I			
	▲ ▲ ▲ **These points should**	2nd	3rd|4th	5th
7	I I I I I I I **strictly be termed "hinges"**			
	▲ ▲ ▲ **see commentary below**	2nd	4th	6th
8	I I I I I I I I			
	▲ ▲ ▲	2nd|3rd	4th|5th	6th|7th
9	I I I I I I I I I			
	▲ ▲ ▲	2nd|3rd	5th	7th|8th
10	I I I I I I I I I I			
	▲ ▲ ▲	3rd	5th|6th	8th
11	I I I I I I I I I I I			
	▲ ▲ ▲	3rd	6th	9th
12	I I I I I I I I I I I I			
	▲ ▲ ▲	3rd|4th	6th|7th	9th|10th
13	I I I I I I I I I I I I I			
	▲ ▲ ▲	3rd|4th	7th	10th|11th
14	I I I I I I I I I I I I I I			
	▲ ▲ ▲	4th	7th|8th	11th
15	I I I I I I I I I I I I I I I			
etc.	▲ ▲ ▲	4th	8th	12th
rg		¼(n+1)	½(n+1)	¾(n+1)
	all values to nearest half value - but for quarter values	*round up*		*round down*

To find the location of the quartiles ,use the formula given but then round **up** quarter values for the lower quartile and round **down** quarter values for the upper quartile, all results to the nearest half. This gives a completely consistent calculation as the quartiles should obviously be equidistant from the median. This method is by Moore and McCabe and differs from Tukey's method by excluding the median point in odd data sets. John Tukey, who invented the box and whisker plot, recognised the confusion in the term **quartile** referring both to the data set itself and the actual boundary values. He termed the latter "hinge" but few including IB follow his example and interchange the terms freely.
The point at issue is that the "mean" often commits the error of producing a meaningless (!) value (eg 2.3 children) and it would seem sensible to avoid that error with the median LQ and UQ. However even using "hinge" still leaves open the question as to how the median might be defined for an even data set with different values at the boundary. For example do you have a value not in the data set, round up or round down depending on the skew? Mathematical packages such as Excel use more complex methods to avoid this confusion but then fall foul of the principle that the quartiles should be "simple enough to be calculated by hand". These complex calculations often then throw up slightly differing values for the IQR. Fortunately, IB and TI are consistent in their simplified approach, detailed above.

Robert Goodhand