

LO: Represent data using a cumulative frequency graph.

The marks for 24 pupils in a test were as follows:

23, 24, 34, 45, 56, 23, 57, 41, 37, 65, 17, 26, 35, 44, 33, 48, 19, 61, 58, 55, 49, 44, 57, 41.

Step 1: Put the data in order (this will usually be done for you in an exam).



Step 2: Put the data in a table with groups (this will usually be done for you in an exam).

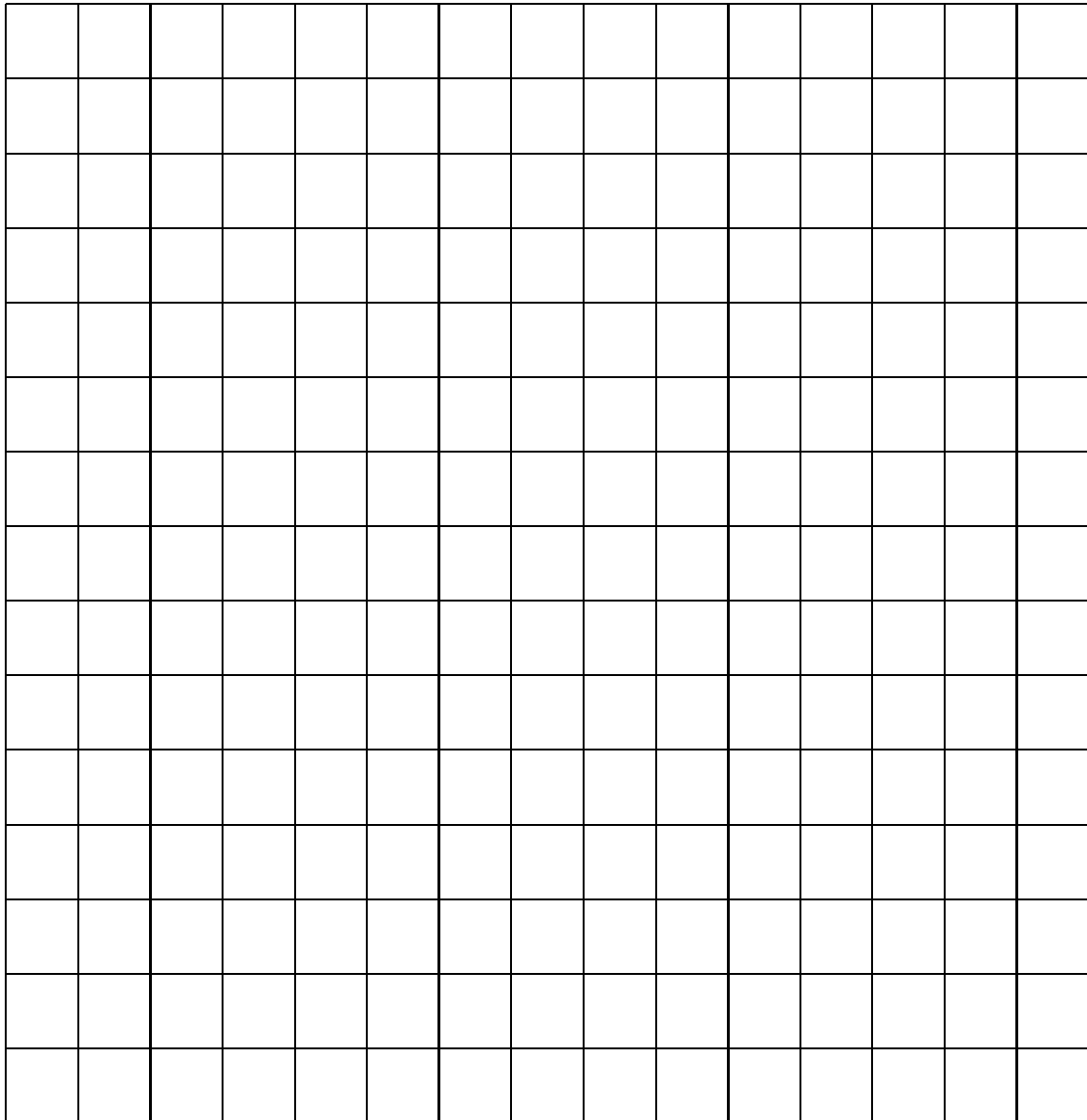
Mark (m)	Frequency	
$10 \leq m < 20$		
$20 \leq m < 30$		
$30 \leq m < 40$		
$40 \leq m < 50$		
$50 \leq m < 60$		
$60 \leq m < 70$		



Step 3: Calculate the **cumulative frequency** (the running total).

As a check, the number in the final row should be the total number of pieces of data (in this case, 24).

Step 4: Plot the graph. Use the endpoint (last number) in the data column.



Step 5: Work out the median, lower quartile, upper quartile and inter-quartile range from the graph.

Median =

Lower quartile =

Upper quartile =

Inter-quartile range =