

Lesson Worksheet 6.2B(II)

Objectives: To find median from a set of grouped data.

The median of a set of grouped data is found as follows:

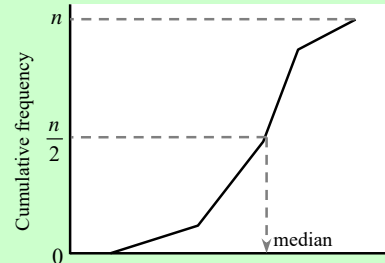
(b) Data grouped into intervals 以區間分組的數據

When a set of data is grouped into intervals, we can find the median by the steps below:
當數據以區間分組，我們可以根據以下的步驟求出中位數：

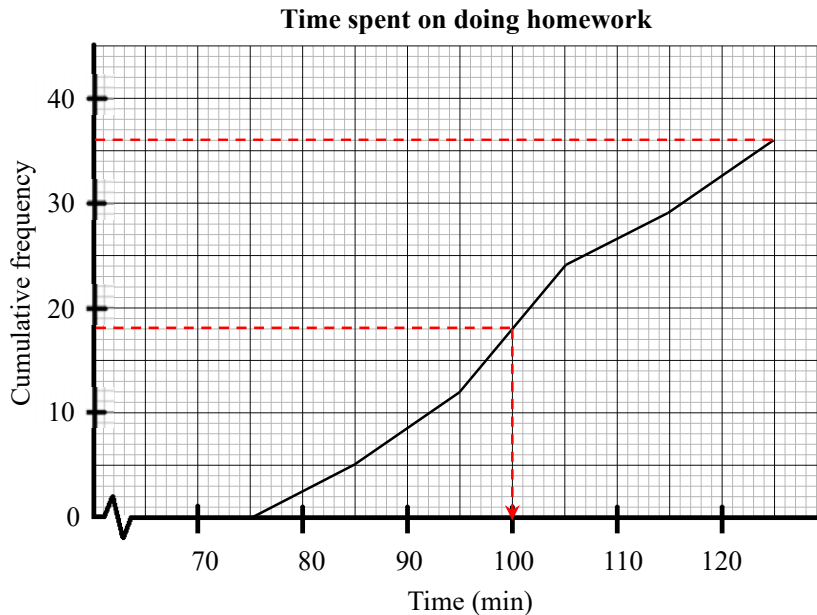
Step 1: Draw the corresponding cumulative frequency polygon or curve.
繪畫對應的累積頻數多邊形或累積頻數曲線。

Step 2: Find the total frequency n of the data.
找出數據的總頻數 n 。

Step 3: Find the value on the horizontal axis corresponding to half of the total frequency (i.e. $\frac{n}{2}$). 找出在橫軸上對應總頻數的一半（即 $\frac{n}{2}$ ）的值。



1. The figure below shows the cumulative frequency polygon (累積頻數多邊形) of the times spent (in min) doing homework by a group of students in a day.



Find the median time spent on doing homework by the group of students in that day.

Total number of students = 36

The median = 18

∴ median time spent = 100 min

mean (平均值)

median (中位數)

mode (眾數)

frequency (頻數)

cumulative frequency (累積頻數)

cumulative frequency polygon (累積頻數多邊形)

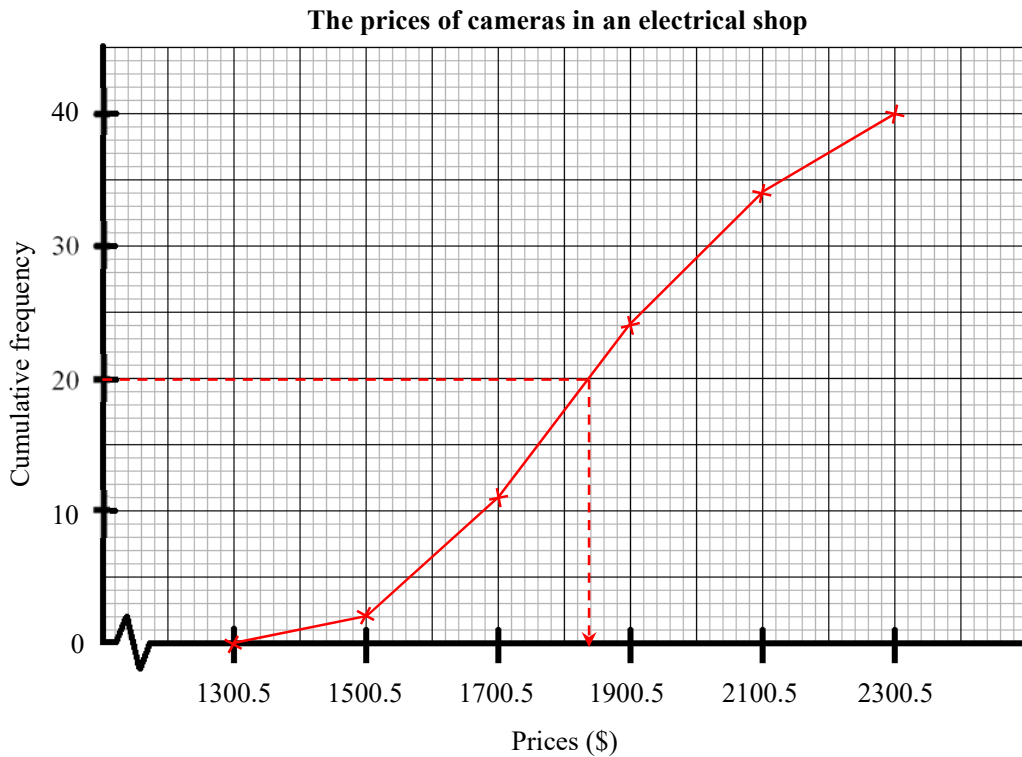
2. The following table shows the prices(價格) of cameras in an electric shop.

Price (\$)	1301 – 1500	1501 – 1700	1701 – 1900	1901 – 2100	2101 – 2300
Frequency	2	9	13	10	6

(a) Complete the cumulative frequency(累積頻數) table below.

Price less than (\$)	1300.5	1500.5	1700.5	1900.5	2100.5	2300.5
Cumulative frequency	0	2	2 + 9 = 11	11 + 13 = 24	24 + 10 = 34	34 + 6 = 40

(b) Draw the cumulative frequency polygon on the graph paper below and find the median price of the cameras.



Total number of cameras = 40

The median = 20

∴ median price = \$ 1840.5

mean (平均值)

median (中位數)

mode (眾數)

frequency(頻數)

cumulative frequency(累積頻數)

cumulative frequency polygon (累積頻數多邊形)

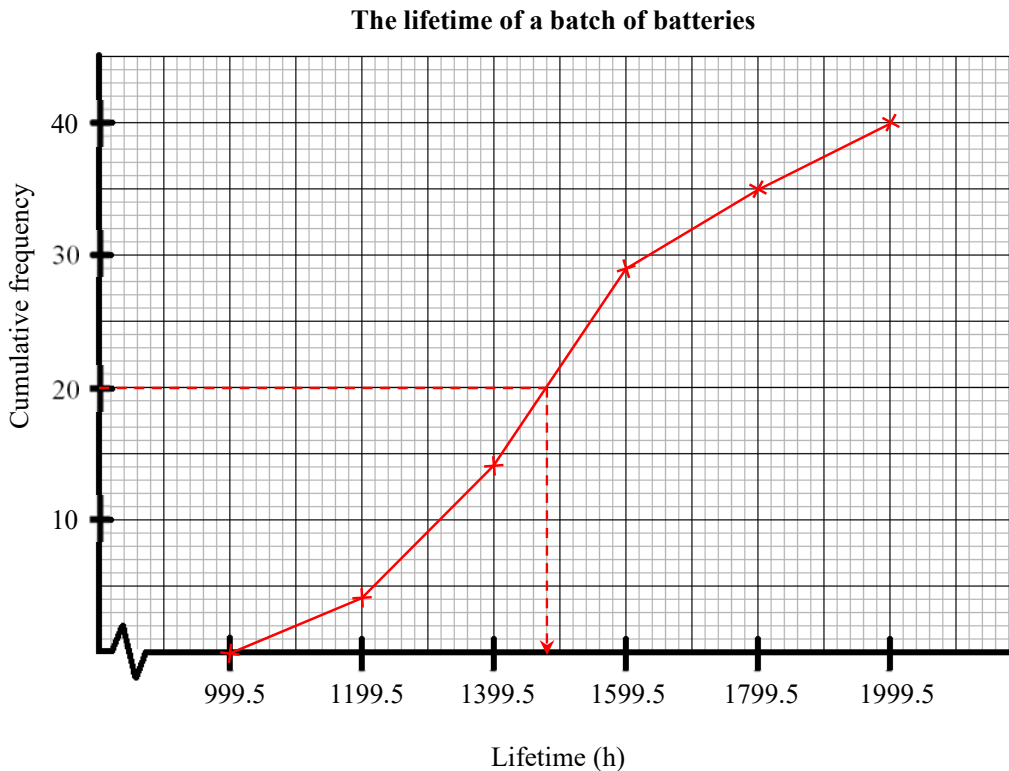
3. The following table shows the lifetime(壽命) of a batch of batteries.

Lifetime (h)	1000 – 1199	1200 – 1399	1400 – 1599	1600 – 1799	1800 – 1999
Frequency	4	10	15	6	5

(a) Complete the cumulative frequency table below.

Lifetime less than (h)	999.5	1199.5	1399.5	1599.5	1799.5	1999.5
Cumulative frequency	0	4	14	29	35	40

(b) Draw the cumulative frequency polygon on the graph paper below and find the median lifetime of the batch of batteries.



Total number of batteries = 40

The median = 20

∴ median lifetime = 1479.5 h

mean (平均值)
frequency(頻數)

median (中位數)
cumulative frequency(累積頻數)

mode (眾數)
cumulative frequency polygon (累積頻數多邊形)