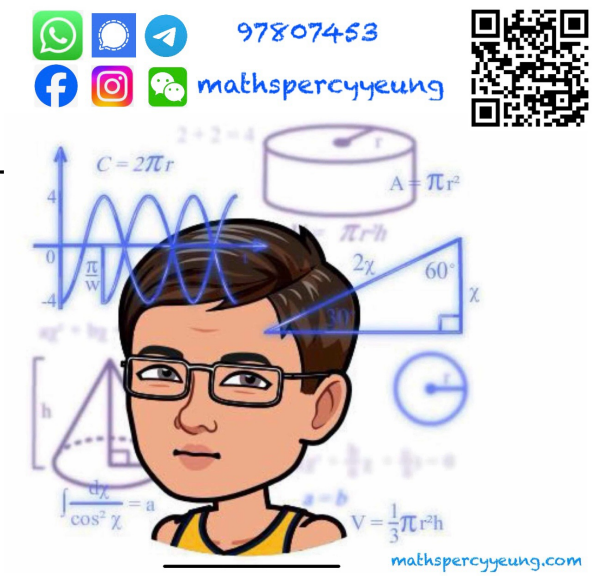
F.2 Mathematics Worksheet 13
Ch.13 Measures of Central Tendency



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1. The high jump records of 6 boys are as follows:

172 cm, 170 cm, 163 cm, 176 cm, 165 cm, 183 cm

Find the mean of the high jump records.

2. If the mean of 2, 5, x, $2x$, $3x - 1$ and 12 is 6, find the value of x.

3. There are 5 players in a basketball team. The heights of 4 of them are 180 cm, 182 cm, 184 cm and 190 cm. If the mean of the heights of the 5 players is 185 cm, find the height of the 5^{th} player.

4. The mean time for an athlete to complete 5 times of 400 m was 54.16 s. If the athlete took 55.2 s to complete the 6^{th} time of 400 m, what would be the mean time for the athlete to complete 6 times of 400 m? (Give your answer correct to 2 decimal places.)

5. The mean of two numbers is 10 and the mean of another three numbers is 15.

(a) Find the sum of these five numbers.

(b) Hence find the mean of these five numbers.

6. (a) Complete the following frequency distribution table.

Class interval	Class mark *x*	Frequency *f*	*fx*
26 - 30		3	
31 - 35		9	
36 - 40		15	
41 - 45		8	
46 - 50		5	
	Total		

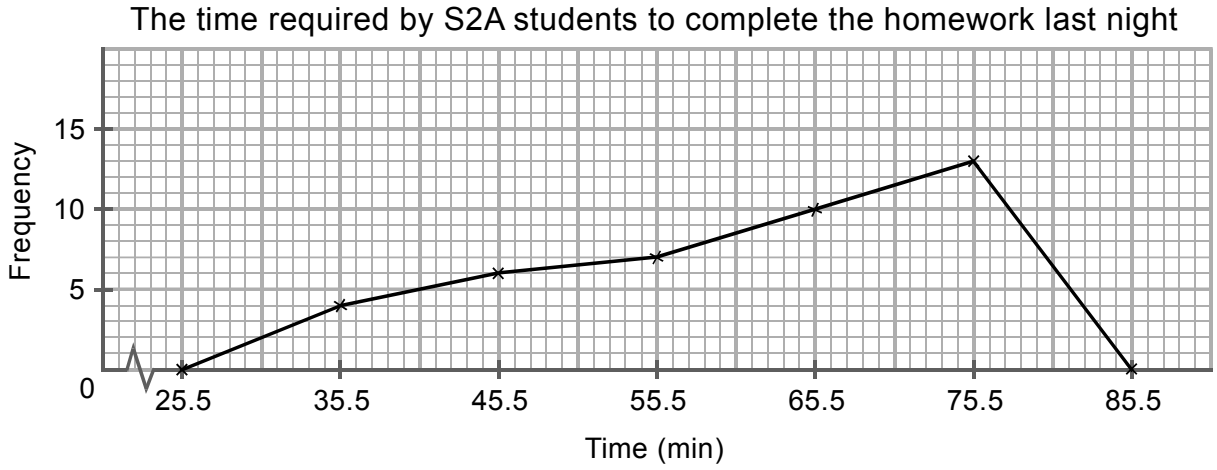
(b) Find the mean of the data in **(a)**.

7. The weights of the students in S2A are as follows:

Weight (kg)	30 - 34	35 - 39	40 - 44	45 - 49	50 - 54
Frequency	8	12	12	x	2

If their mean weight is 39.75 kg, find the value of x.

8. The following frequency polygon shows the time required by S2A students for completing the homework last night. It is given that the first class interval is 31 minutes - 40 minutes. Find the mean time for them to complete the homework.



9. The respective weights of ten pumpkins are 5.4 kg, 6.5 kg, 4.8 kg, 7.2 kg, 8.0 kg, 6.8 kg, 7.5 kg, 7.2 kg, 8.4 kg and 7.0 kg. Find the median weight of these ten pumpkins.

10. The following stem-and-leaf diagram shows the Mathematics test scores of the students in S2A.

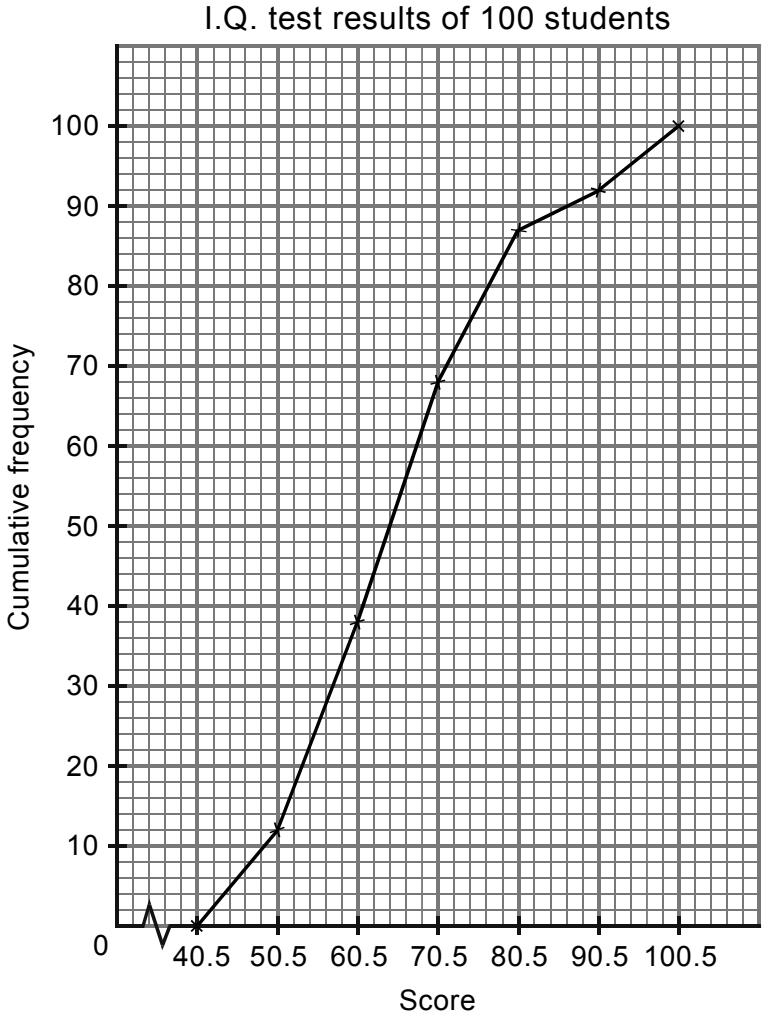
Mathematics test scores of the students in S2A

Stem (10 marks)	Leaf (1 mark)
4	4 6 6 6
5	0 1 1 3 8 9
6	2 4 7 7 7 8 8 9 9
7	1 1 2 3 3 3 5 5 7 8 9
8	2 8

(a) How many students are recorded in the above stem-and-leaf diagram?

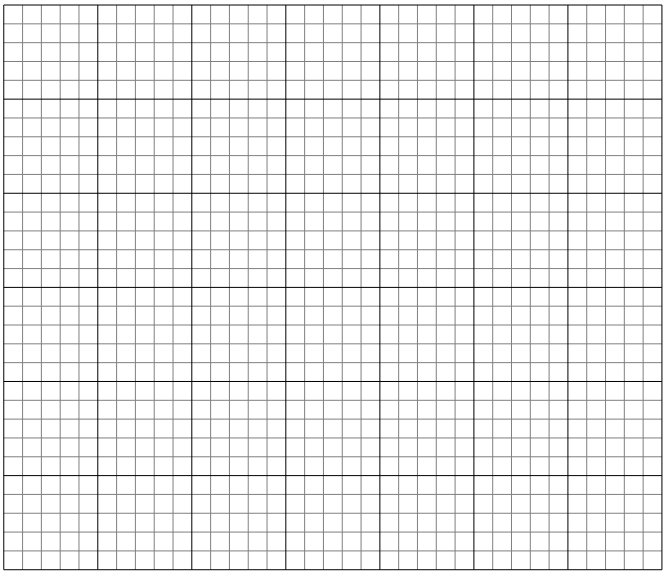
(b) Find the median test score.

11. The cumulative frequency polygon shows the intelligence quotient (I.Q.) test results of 100 students. Find the median I.Q. test result of the students.



12. The following cumulative frequency table shows the duration (in second) for holding breath among 50 students.

Holding breath for less than (s)	Cumulative frequency
10	9
20	29
30	40
40	47
50	49
60	50



(a) According to the above table, construct a cumulative frequency polygon.

(b) Hence find the median duration for holding breath among these 50 students.

13. The following frequency distribution table shows the number of movies watched by 50 people during a summer vacation.

Number of movies watched	0	1	2	3	4	5 or more
Frequency	4	8	13	y	8	3

(a) Find y.

(b) Find the median number of movies watched.

14. The respective amounts spent by Mrs. Chan on five purchases at a supermarket are \$ 54, \$ 82, \$ 125, \$ 163 and \$ x. It is given that the mean amount spent on these five purchases is \$ 103.

(a) (i) Find the value of x.

(ii) Find the median amount spent on these five purchases.

(b) If Mrs. Chan spent \$ 102 on the sixth purchase at the supermarket, find the median amount spent on these six purchases.

15. Find the mode of each of the following sets of data.

(a) 7, 7, 8, 8, 9, 9, 9, 10, 10, 12, 12

(b) −8, −5, −13, 0, −5, −9, −13, −5

16. Find the modal class of the following set of data.

Class	26 - 30	31 - 35	36 - 40	41 - 45	46 - 50
Frequency	3	10	14	6	5

17. The following stem-and-leaf diagram shows the sales volume of vacuum cleaners achieved by a salesperson in the past 10 days. Find the mode of the sales volume.

Sales volume of vacuum cleaners

Stem (10)	Leaf (1)
0	3 3 4 4 4 7 8
1	0 2
2	0

18. The following cumulative frequency table shows the floor area of the flats of 30 families.

Floor area less than (m^2)	Cumulative frequency
9.5	0
29.5	3
49.5	5
69.5	25
89.5	30

(a) Given that the first class interval is 10 m^2 - 29 m^2, complete the following table.

Floor area (m^2)	Frequency
10 - 29	
30 - 49	
50 - 69	
70 - 89	

(b) Find the modal class of floor area.