

Plot a cumulative frequency diagram

Maths

Miss Parnham



Plot a cumulative frequency diagram

1. The table shows the journey time for 30 students travelling to school.

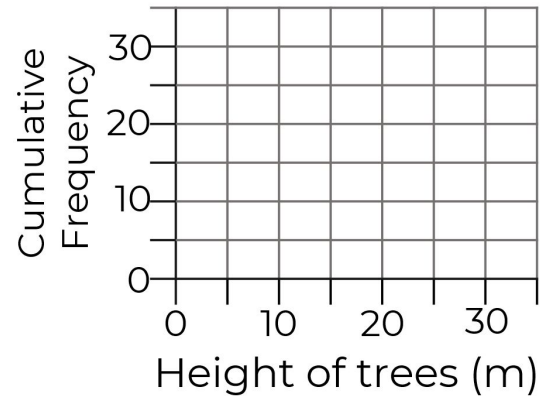
Time (min)	Frequency	Cumulative Frequency
$0 < t \leq 10$	7	
$10 < t \leq 20$	12	
$20 < t \leq 30$	8	
$30 < t \leq 40$	3	

Complete the table.

What is the modal class interval?

2. Plot a cumulative frequency diagram.

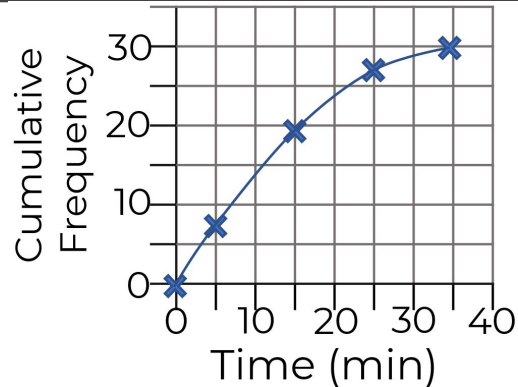
Height (m)	Frequency	C. F.
$0 < t \leq 5$	3	
$5 < t \leq 10$	7	
$10 < t \leq 15$	12	
$15 < t \leq 20$	2	
$20 < t \leq 30$	1	



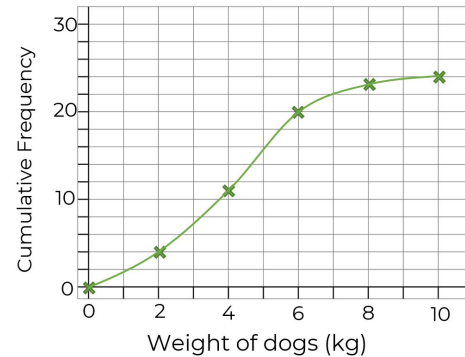
Plot a cumulative frequency diagram

3. Compare the table and the diagram, what error has been made?

Time (min)	Frequency	Cumulative Frequency
$0 < t \leq 10$	7	7
$10 < t \leq 20$	12	19
$20 < t \leq 30$	8	27
$30 < t \leq 40$	3	30



4. Use the cumulative frequency diagram to complete the table.



Weight (kg)	Frequency	C. F.
$0 < w \leq 2$		
$2 < w \leq 4$		
$4 < t \leq 6$		
$6 < t \leq 8$		
$8 < t \leq 10$		



Answers



Plot a cumulative frequency diagram

1. The table shows the journey time for 30 students travelling to school.

Time (min)	Frequency	Cumulative Frequency
$0 < t \leq 10$	7	7
$10 < t \leq 20$	12	19
$20 < t \leq 30$	8	27
$30 < t \leq 40$	3	30

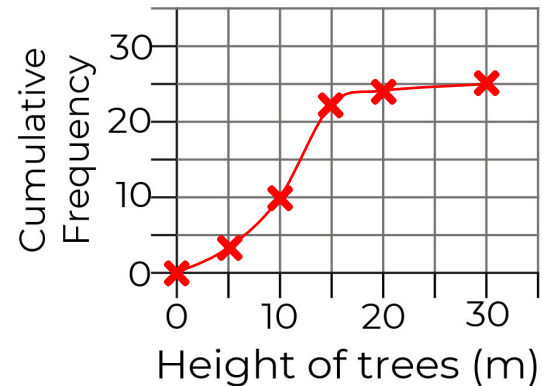
Complete the table.

What is the modal class interval?

$$10 < t \leq 20$$

2. Plot a cumulative frequency diagram.

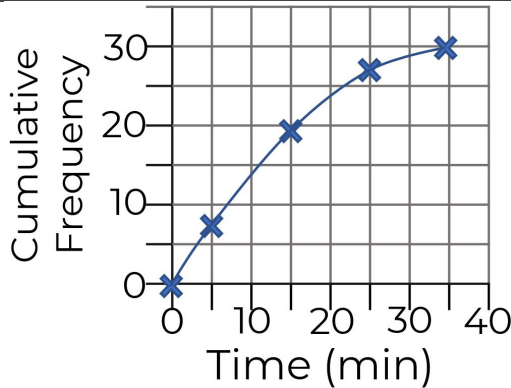
Height (m)	Frequency	C. F.
$0 < t \leq 5$	3	3
$5 < t \leq 10$	7	10
$10 < t \leq 15$	12	22
$15 < t \leq 20$	2	24
$20 < t \leq 30$	1	25



Plot a cumulative frequency diagram

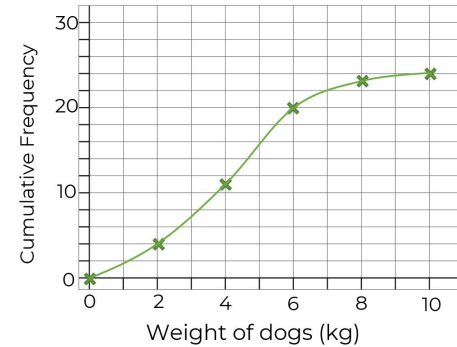
3. Compare the table and the diagram, what error has been made?

Time (min)	Frequency	Cumulative Frequency
$0 < t \leq 10$	7	7
$10 < t \leq 20$	12	19
$20 < t \leq 30$	8	27
$30 < t \leq 40$	3	30



The midpoint of each class interval, rather than the upper bound, has been plotted against the cumulative frequency.

4. Use the cumulative frequency diagram to complete the table.



Weight (kg)	Frequency	C. F.
$0 < w \leq 2$	4	4
$2 < w \leq 4$	7	11
$4 < t \leq 6$	9	20
$6 < t \leq 8$	3	23
$8 < t \leq 10$	1	24

