Exercise 14H

Question 12:

We may prepare the table, given below:

Weight (in kg) (x)	No of students (f)	Cumulative Frequency	$f \times x$
47	4	4	188
50	3	7	150
53	2	9	106
56	2	11	112
60	4	15	240
	$\sum f = N = 15$		$\sum f \times x = 796$

Here, $\sum f \times x = 796$, and $\sum f = 15$

$\therefore$ $\text{mean} = \dfrac{\sum f \times x}{\sum f} = \dfrac{796}{15} = 53.06$

$\therefore$ $\text{mean} = 53.06$

Here, $N = 15$ which is odd

$\therefore$ $\text{median} = \left(\dfrac{n+1}{2}\right)\text{th term}$

$= \left(\dfrac{15+1}{2}\right)\text{th term} = 8\text{th term}$

value of the 8th term $= 53$

$\therefore$ median $= 53$

$\therefore$ $\text{mode} = 3\,(\text{median}) - 2(\text{mean})$

$= (3 \times 53) - (2 \times 53.06)$

$= 159 - 106.12 = 52.88$

Thus, mean = 53.06, median = 53 and mode = 52.88

********** END **********