

⑦

weight (in kg)	no. of wrestlers $f_i$	class Marks $x_i$	$U_i = \frac{x_i - a}{h}$	$f_i U_i$
100 - 110	4	105	-2	-8
110 - 120	14	115	-1	-14
120 - 130	21	125 = a	0	0
130 - 140	8	135	1	8
140 - 150	3	145	2	6
	50			-8

$$\begin{aligned} \text{Mean weight} &= a + \frac{\sum f_i U_i}{\sum f_i} \times h \\ &= 125 + \frac{-8}{50} \times 10 \\ &= 125 - 1.6 \\ &= 123.4 \text{ kg} \end{aligned}$$

⑧

Mileage (km/l)	no. of cars $f_i$	class Marks $x_i$	$U_i = \frac{x_i - a}{h}$	$f_i U_i$
10 - 12	7	11	-2	-14
12 - 14	12	13	-1	-12
14 - 16	18	15 = a	0	0
16 - 18	13	17	1	13
	50			-13

$$\begin{aligned} \text{Mean Mileage} &= a + \frac{\sum f_i U_i}{\sum f_i} \times h = 15 + \frac{-13}{50} \times 2 \\ &= 15 - 0.52 \\ &= 14.48 \text{ km/l} \end{aligned}$$

$$\begin{aligned} \text{no. difference in average mileage} &= 16 - 14.48 \\ &= 1.52 \text{ km/l} \end{aligned}$$