

②

C I	frequency	x_i	$d_i = \frac{x_i - a}{h}$	$f_i d_i$
0 - 10	5	5	-10	-50
10 - 20	10	15 = a	0	0
20 - 30	10	25	10	100
30 - 40	5	35	20	100
total	20			150

$$\begin{aligned} \text{Mean} &= a + \frac{\sum f_i d_i}{\sum f_i} \\ &= 15 + \frac{150}{20} \\ &= 15 + 7.5 \\ &= 22.5 \end{aligned}$$

let $a = 20$

$d_i = \frac{x_i - a}{h}$	$f_i d_i$
-15	-75
-5	-50
5	50
15	75
	0

$$\begin{aligned} \text{Mean} &= a + \frac{\sum f_i d_i}{\sum f_i} \\ &= 20 + \frac{0}{20} \\ &= 20 \end{aligned}$$

so a need not be a class mark.