Statistics H.W.

- Find the missing frequencies:

C.I.	C.I.	f_i	x_i	$f_i x_i$
9.3 - 9.7	9.25 - 9.75	2	9.50	19
9.8 - 10.2	9.75 - 10.25	5	10	50
10.3 - 10.7	10.25 - 10.75	f_3 (x)	10.50	10.50x
10.8 - 11.2	10.75 - 11.25	f_4 (y)	11	11y
11.3 - 11.7	11.25 - 11.75	14	11.50	161
11.8 - 12.2	11.75 - 12.25	6	12	72
12.3 - 12.7	12.25 - 12.75	3	12.50	37.5
12.8 - 13.2	12.75 - 13.25	1	13	13
		60		352.5 + 10.5x + 11y

$x + y = 29 \quad \ldots (1)$

formula: $\frac{\sum f_i x_i}{\sum f_i} = \text{mean}$

$\Rightarrow \frac{352.5 + 10.5x + 11y}{60} = 11.09$

$\Rightarrow 352.5 + 10.5x + 11y = 665.4$

$\Rightarrow 10.5x + 11y = 312.9 \quad \ldots (2)$

$\Rightarrow x + y = 29$

$10.5x + 11y = 312.9$

$\Rightarrow (x + y = 29)\ 10.5$

$10.5x + 11y = 312.9$

$\Rightarrow 10.5x + 10.5y = 304.5$

$10.5x + 11y = 312.9$

$\therefore 10.5y = 304.5$
$- 11y = 312.9$

$\therefore -0.5y = -8.4$
$\therefore 0.5y = 8.4$
$\therefore y = 16.8$

$x + y = 29$ (first equation)
$\therefore x + 16.8 = 29$
$x = 12.2$

$x = 12.2$ } Answer.
$y = 16.8$ }