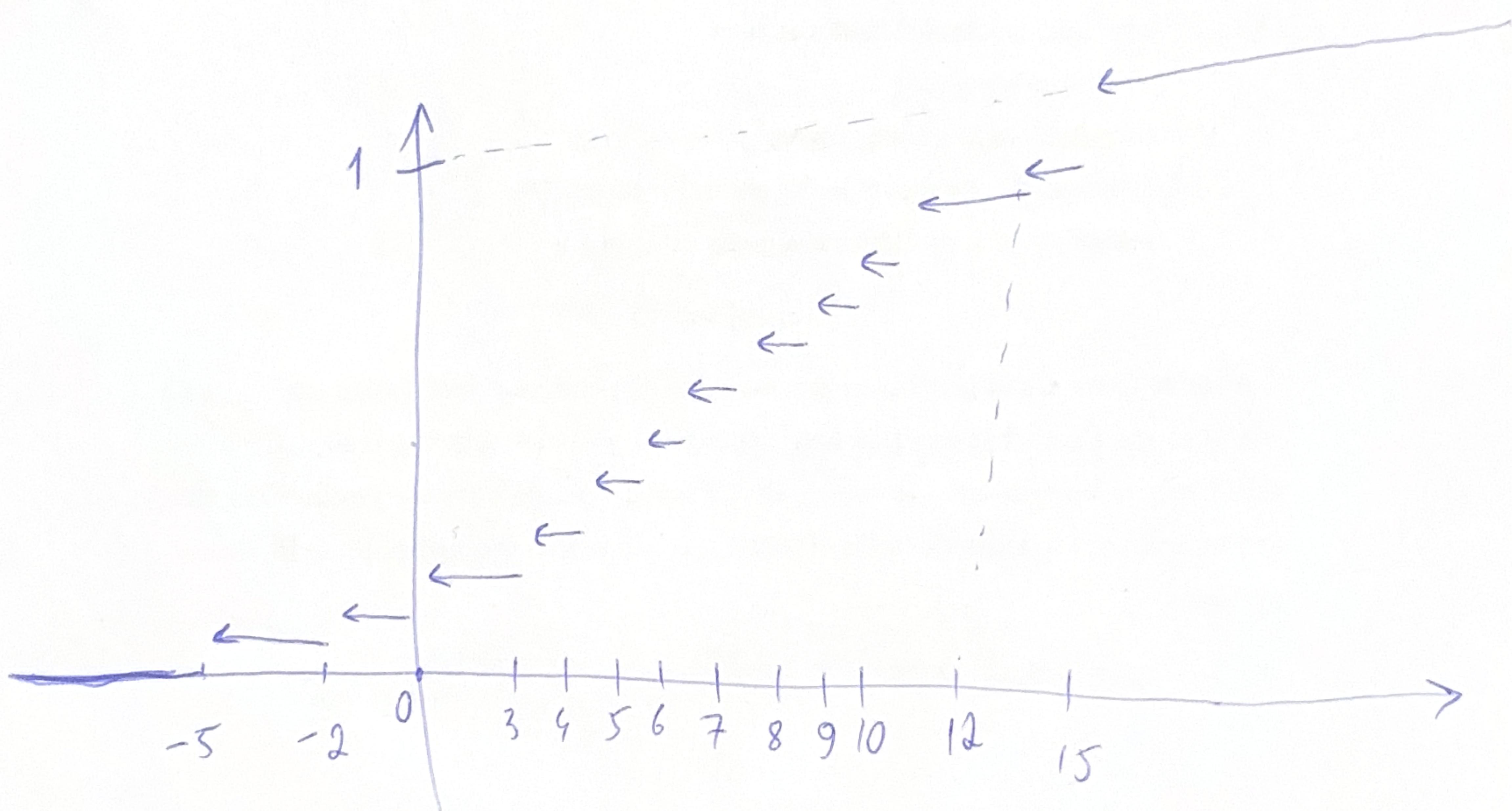


1

| | | | | | | | | | | | | | |
|-------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| x_k | -5 | -2 | 0 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 12 | 15 |
| n_k | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 1 | 1 |
| f_k | $\frac{1}{16}$ | $\frac{1}{16}$ | $\frac{1}{16}$ | $\frac{1}{16}$ | $\frac{1}{16}$ | $\frac{2}{16}$ | $\frac{1}{16}$ | $\frac{2}{16}$ | $\frac{1}{16}$ | $\frac{2}{16}$ | $\frac{1}{16}$ | $\frac{1}{16}$ | $\frac{1}{16}$ |

$$F(x) = \begin{cases} 0 & x \leq -5 \\ \frac{1}{16} & -5 < x \leq -2 \\ \frac{2}{16} & -2 < x \leq 0 \\ \vdots & \vdots \\ 1 & x > 15 \end{cases}$$



2
(-5) 12 14 14 15 16 17 18 19 20 21 22 23 24 24 25 29
30 35

outliers: -5, ~~30, 35, 33, 29~~

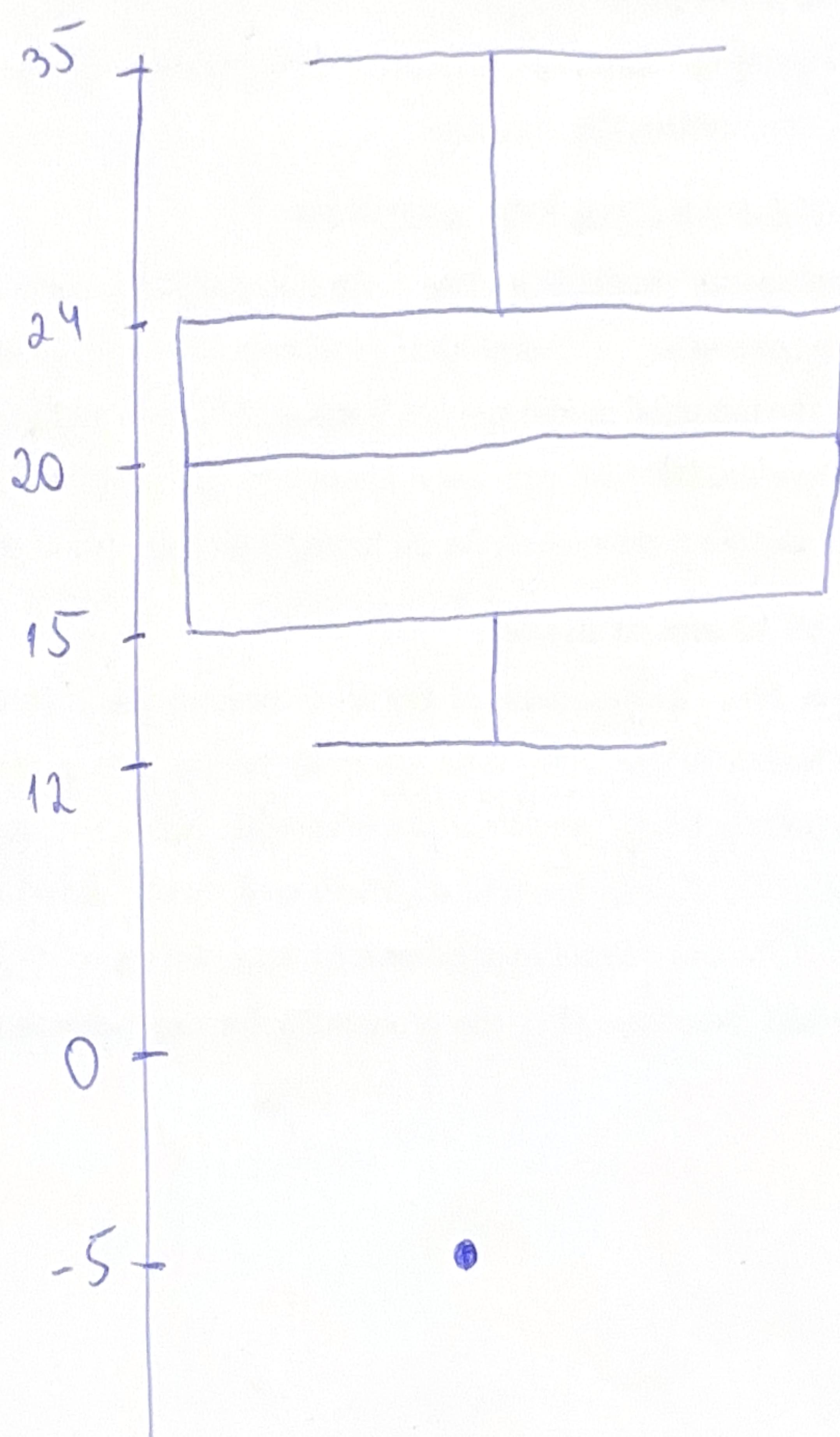
$Q_1 = 15 \rightarrow -5 \ 12 \ 14 \ 14 \ 15 \ 16 \ 17 \ 18 \ 19$

$Q_2 = 20 \rightarrow \text{median}$

$Q_3 = 24 \rightarrow 21 \ 22 \ 23 \ 24 \ 25 \ 29 \ 30 \ 35$

Maximum $\rightarrow 35$

Min $\rightarrow 12$ (not considering the outliers)



3

$$\text{Range} = 105 - (-10) = 115$$

$$\frac{\text{Range}}{\#\text{Bins}} = \frac{115}{5} = 23$$

- ① $-10 + 23 = 13 \Rightarrow$ First bin interval $(-10, 13]$
- ② $13 + 23 = 36 \Rightarrow$ Second bin interval $(13, 36]$
- ③ $36 + 23 = 59 \Rightarrow$ Third bin interval $(36, 59]$
- ④ $59 + 23 = 82 \Rightarrow$ Fourth bin interval $(59, 82]$
- ⑤ $82 + 23 = 105 \Rightarrow$ Fifth bin interval $(82, 105]$

① \rightarrow 1 value

② \rightarrow 0 values

③ \rightarrow 4 values

④ \rightarrow 8 values

⑤ \rightarrow 10 values

