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1. Data setelah terurut:

46 55 60 64 65 66 70 72 74 76

77 78 82 83 85 86 88 90 92 94

a.

Stem	Leaf	Frekuensi	Frekuensi Kumulatif
4	6	1	1
5	5	1	2
6	0, 4, 5, 6	4	6
7	0, 2, 4, 6, 7, 8	6	12
8	2, 3, 5, 6, 8	5	17
9	0, 2, 4	3	20

b. $n = 20$

$Q_1 \rightarrow \frac{n+1}{4} = \frac{20+1}{4} = 5{,}25 \rightarrow Q_1 = 65 + (66-65)\,0{,}25 = 65{,}25$

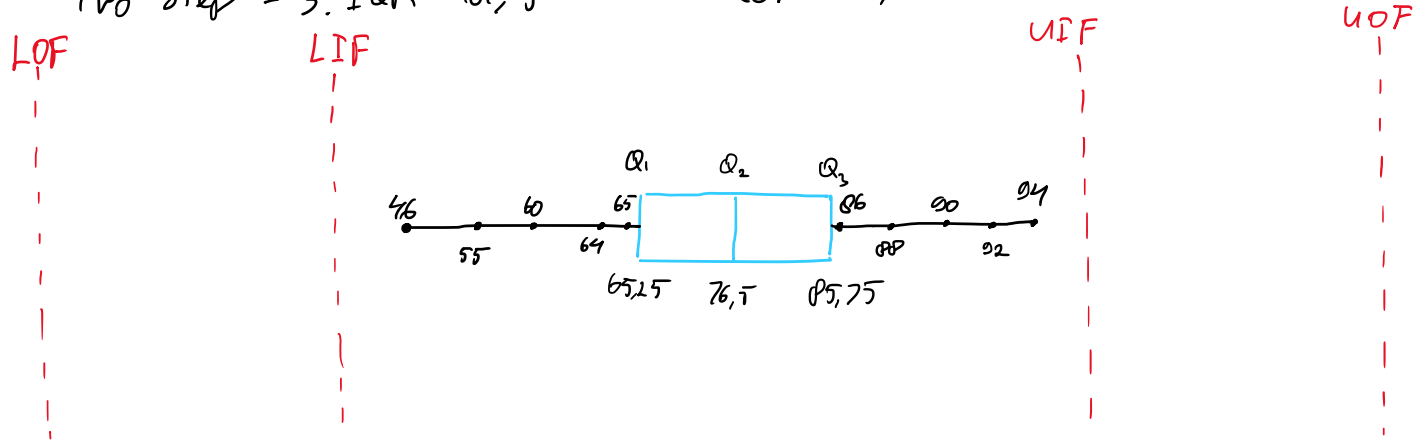
$Q_2 \rightarrow \frac{2(n+1)}{4} = \frac{2(20+1)}{4} = 10{,}5 \rightarrow Q_2 = 76 + (77-76)\,0{,}5 = 76{,}5$

$Q_3 \rightarrow \frac{3(n+1)}{4} = \frac{3(20+1)}{4} = 15{,}75 \rightarrow Q_2 = 85 + (81-85)\,0{,}75 = 85{,}75$

$IQR = Q_3 - Q_1 = 85{,}75 - 65{,}25 = 20{,}5$

One-Step = 1,5 IQR = 30,75 LIF = 34,5 UIF = 116,5

Two-Step = 3. IQR = 61,5 LOF = 3,75 UOF = 147,25



Tidak ada Outlier

2. $X = 5$ → Banyaknya pria

$Y = 4$ → Banyaknya wanita

a.

$$P(X=0) = \frac{{}_5C_0 \cdot {}_4C_3}{{}_9C_3} = \frac{\frac{5!}{0!(5-0)!} \cdot \frac{4!}{3!(4-3)!}}{\frac{9!}{3!\,6!}} = \frac{1 \cdot 4}{84} = \frac{1}{21}$$

$$P(X=1) = \frac{{}_5C_1 \cdot {}_4C_2}{{}_9C_3} = \frac{\frac{5!}{1!\,4!} \cdot \frac{4!}{2!\,2!}}{84} = \frac{5 \cdot 6}{84} = \frac{30}{84} = \frac{5}{14}$$

$$P(X=2) = \frac{{}_5C_2 \cdot {}_4C_1}{{}_9C_3} = \frac{\frac{5!}{2!\,3!} \cdot \frac{4!}{1!\,3!}}{84} = \frac{10 \cdot 4}{84} = \frac{10}{21}$$

$$P(X=3) = \frac{{}_5C_3 \cdot {}_4C_0}{{}_9C_3} = \frac{\frac{5!}{3!\,2!} \cdot \frac{4!}{0!\,4!}}{84} = \frac{10 \cdot 1}{84} = \frac{5}{42}$$

b.

$$f_x(x) = \begin{cases} \frac{1}{21}, & x = 0 \\ \frac{5}{14}, & x = 1 \\ \frac{10}{21}, & x = 2 \\ \frac{5}{42}, & x = 3 \\ 0, & x \text{ lainnya} \end{cases}$$

$$F_x(x) = \begin{cases} \frac{1}{21}, & 0 \le x < 1 \\ \frac{5}{14}, & 1 \le x < 2 \\ \frac{10}{21}, & 2 \le x < 3 \\ \frac{5}{42}, & 3 \le x < 4 \\ 0, & x \text{ lainnya} \end{cases}$$

1. ~~$F(x) = 0 \cdot \frac{0^3}{64} + 1 \cdot \frac{1^3}{64} + 2 \cdot \frac{2^3}{64} + 4 \cdot \frac{4^3}{64} = 426$~~

4. $y = 3x + 2 \rightarrow x = \frac{y-2}{3}$

$0 < x < 2 \rightarrow 2 < y < 8$

2. $0,3 = P(B) + 0,2 - 0,2P(B)$

$0,1 = 0,8\,P(B)$

$P(B) = \frac{1}{8}$

8. $\frac{617}{5!6!7} = \frac{13}{C_8}$

5. $\frac{6C_2 \cdot 4C_1}{12C_3} = \frac{\frac{6!}{2!(3)!} \cdot \frac{4!}{1!3!}}{\frac{12!}{3!9!}} = \frac{60 \cdot 4}{220} = \frac{4}{22} = \frac{2}{11}$

6. $0,25 \cdot 0,92 = 0,23$

4. $\int_{-2}^{-1} 0,1\,dx + \int_{-1}^{0} k\,dx + \int_{0}^{1} 0,2\,dx + \int_{1}^{2} 2k\,dx + \int_{2}^{3} 0,3\,dx + \int_{3}^{4} 3k\,dx = 1$

$0,1 + k + 0,2 + 2k + 0,3 + 3k = 1$

$6k + 0,6 = 1$

$k = \frac{0,4}{6} = \frac{0,2}{3} = \frac{1}{15}$

11. $P(\bar{E}) + P(F) - P(E \cap F) = P(E \cup F)$

$0,3 + 0,2 - P(E|F)P(F) = 0,4$

$0,5 - 0,2\,P(E|F) = 0,4$

$P(E|F) = \frac{1}{2} = 0,5$

12. $15C_8 = \frac{15!}{8!\,7!} = \frac{15 \cdot 14 \cdot 13 \cdot 12 \cdot 11 \cdot 10 \cdot 9 \cdot 8!}{8! \cdot 7 \cdot 6 \cdot 5 \cdot 4 \cdot 3 \cdot 2}$

$15C_2 = \frac{10}{2!\,13!} = 105$

17. $E(x) = 2 \cdot 0,15 + 30 \cdot 0,1 + 40 \cdot 0,05 + 50 \cdot 0,2 + 60 \cdot 0,1 + 70 \cdot 0,1 + 80 \cdot 0,3 = 55$

20. $\int_0^1 x\,dx + \int_1^k 2 - x\,dx = 1$

$\frac{1}{2}x^2\Big|_0^1 + 2x - \frac{1}{2}x^2\Big|_1^k = 1$

$\frac{1}{2} + \left[\left(2k - \frac{k^2}{2}\right) - \left(2 - \frac{1}{2}\right)\right] = 1$

$\frac{1}{2} + 2k - \frac{k^2}{2} - \frac{3}{2} = 1$

$-\frac{k^2}{2} + 2k - 1 = 1$

$-\frac{k^2}{2} + 2k - 2 = 0$

$k^2 - 4k + 4 = 0$

$(k-2)^2 = 0$

$k = 2$

16. $Y = 2X \rightarrow X = \frac{Y}{2}$

$X = 1 = \frac{Y}{2}$

$Y = 2 \leftrightarrow X = 1$

$P(Y=2) = P(X=1) = 4/16$

1. $\int_0^4 \frac{x^4}{64} \cdot x\,dx = \frac{1}{5} \cdot \frac{x^5}{64}\Big|_0^4$

$= \frac{1}{5} \cdot \frac{4^5}{4^3} = \frac{16}{5} = 3,2$