

## Deskriptiv statistik

**Ugrupperede observationer** (Antal tryksager familierne modtog en bestemt weekend)

Antal tryksager	Antal familier (hyppighed)
8	24
9	30
10	42
11	40
12	36
13	28
	I alt 200

**Middelværdi**  $\mu = \frac{8 \cdot 24 + 9 \cdot 30 + 10 \cdot 42 + 11 \cdot 40 + 12 \cdot 36 + 13 \cdot 28}{200} = 10,59$

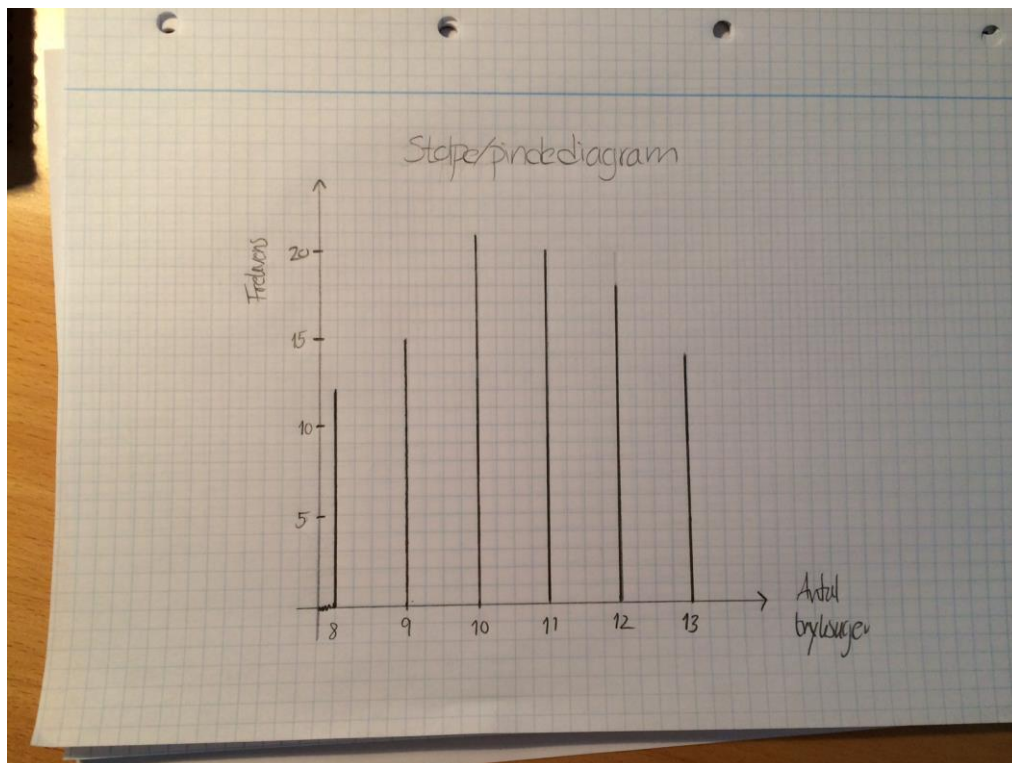
**Grupperede observationer** (Højden af eleverne i 6B)

Højde målt i cm	Antal elever
[150,155]	5
]155,160]	7
]160,165]	8
]165,170]	3
]170,175]	0
]175,180]	1
	I alt 24

## Frekvens

Antal tryksager	Antal familier (hyppighed)	Frekvens
8	24	$\frac{24}{200} \cdot 100\% = 12\%$
9	30	$\frac{30}{200} \cdot 100\% = 15\%$
10	42	$\frac{42}{200} \cdot 100\% = 21\%$
11	40	$\frac{40}{200} \cdot 100\% = 20\%$
12	36	$\frac{36}{200} \cdot 100\% = 18\%$
13	28	$\frac{28}{200} \cdot 100\% = 14\%$
	I alt 200	100%

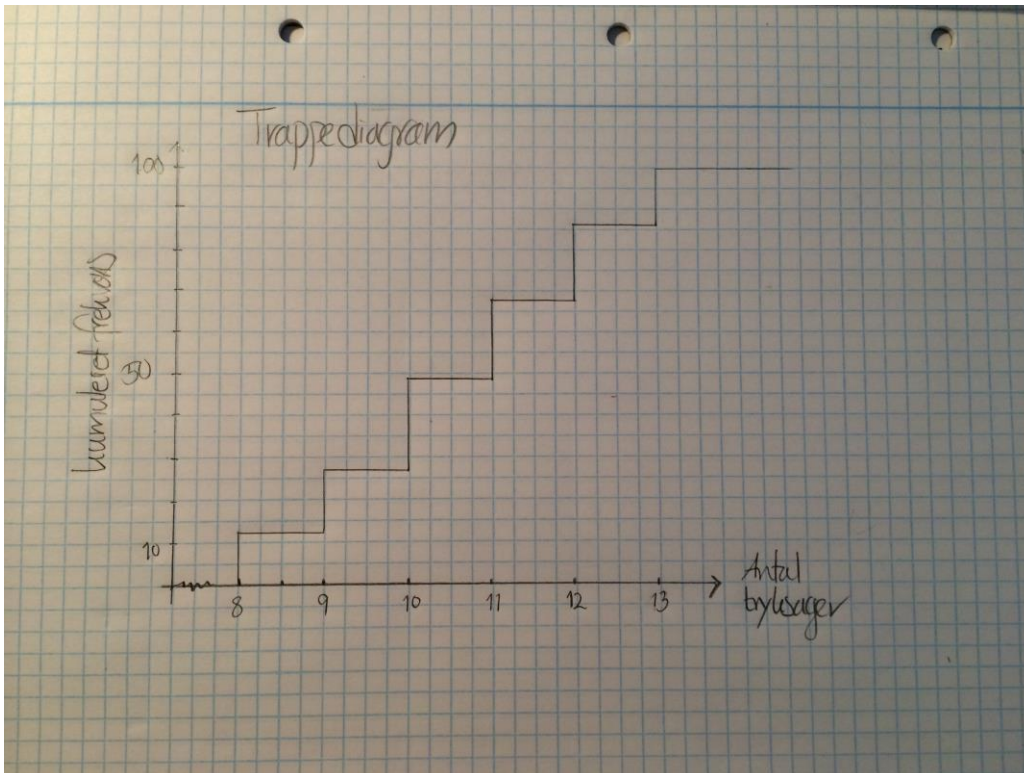
## Stolpediagram:



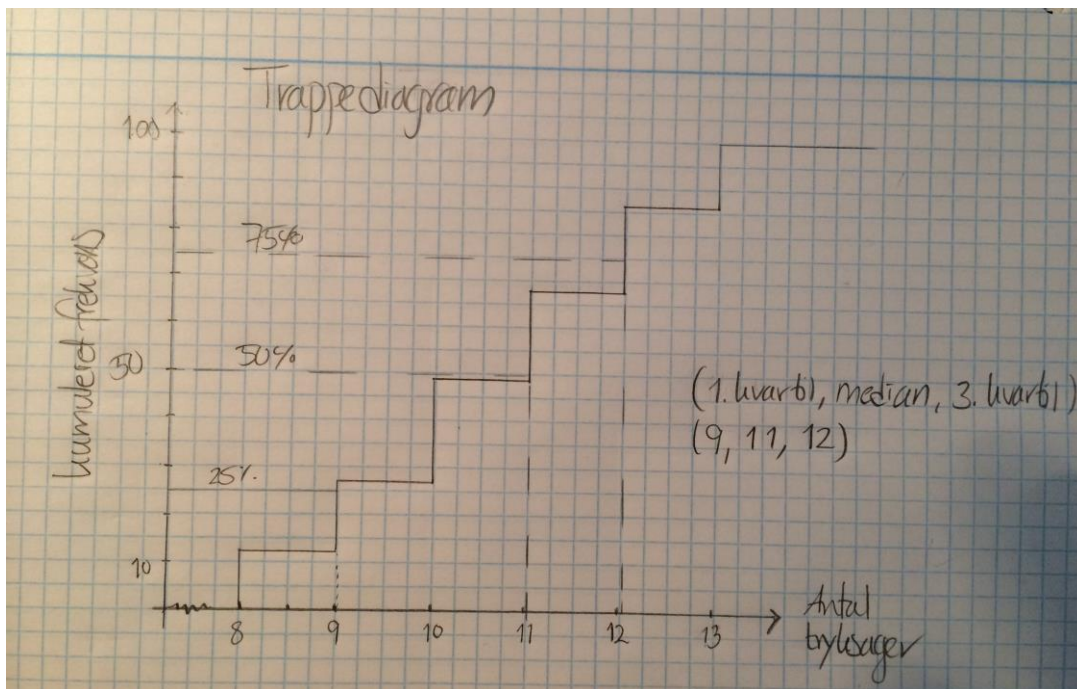
## Kumuleret frekvens

Antal tryksager	Antal familier (hyppighed)	Frekvens	Kumuleret frekvens
8	24	$\frac{24}{200} \cdot 100\% = 12\%$	12%
9	30	$\frac{30}{200} \cdot 100\% = 15\%$	12% + 15% = 27%
10	42	$\frac{42}{200} \cdot 100\% = 21\%$	27% + 21% = 48%
11	40	$\frac{40}{200} \cdot 100\% = 20\%$	48% + 20% = 68%
12	36	$\frac{36}{200} \cdot 100\% = 18\%$	68% + 18% = 86%
13	28	$\frac{28}{200} \cdot 100\% = 14\%$	86% + 14% = 100%
	I alt 200	100%	

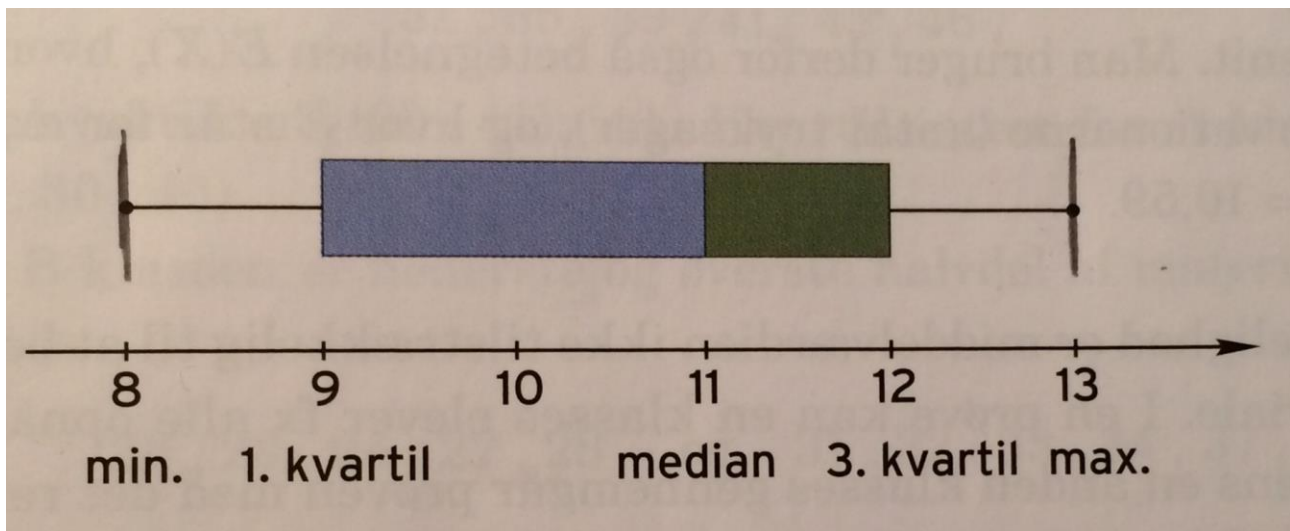
## Trappediagram:



## Fraktiler, kvartiler (25%-fraktil, 50%-fraktil (median), 75%-fraktil)



## Boksplot:



**Varians:**

$$\begin{aligned} \text{Var}(X) &= (10,59 - 8)^2 \cdot 0,12 + (10,59 - 9)^2 \cdot 0,15 + (10,59 - 10)^2 \cdot 0,21 + (10,59 - 11)^2 \cdot 0,20 + \\ &\quad (10,59 - 12)^2 \cdot 0,18 + (10,59 - 13)^2 \cdot 0,14 = 2,46 \end{aligned}$$

**Spredning:**

$$\sigma = \sqrt{\text{Var}(X)} = \sqrt{2,46} = 1,57$$