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S T Q Q S S D

Eliezer C. A. Teixeira

a) Aluno A 9,5 9,0 2,0 6,0 6,5 3,0 7,0 2,0
Aluno B 5,0 5,5 4,5 6,0 5,5 5,0 4,5 4,0

b)
$A = (9,5+9+2+6+6,5+3+7+2)/8 = 5,625$
$B = (5,0+5,5+4,5+6+5,5+5+4,5+4)/8 = 5$
Aluno A = 5,625
Aluno B = 5

c) Desvio médio $\frac{\sum_{i=1}^{n} |x_i - \bar{x}|}{n}$

Aluno A
$|9,5-5,625| = 3,875$
$|9-5,625| = 3,375$
$|2-5,625| = 3,625$
$|6-5,625| = 0,375$
$|6,5-5,625| = 0,875$
$|3-5,625| = 2,625$
$|7-5,625| = 1,375$
$|2-5,625| = 3,625$

$19,75/8 = 2,469$

Aluno B
$|5-5| = 0$
$|5,5-5| = 0,5$
$|4,5-5| = 0,5$
$|6-5| = 1$
$|5,5-5| = 0,5$
$|5-5| = 0$
$|4,5-5| = 0,5$
$|4-5| = 1$

$4/8 = 0,5$

R = Desvio médio do Aluno A é maior do que o Aluno B, então o aluno B tem o resultado mais homogêneo.

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9) 0 0 1 1 1 1 2 2 2 2 3 3 3 3 4 4 4 4 5 5 5 5 6 6 6 6 7 7 7
5 5 5 5 8 8 9 9 10 10 11 11 12 15 15 20 20 25 25

a moda = 8

(1.4)+(2.9)+(3.4)+(4.4)+(5.4)+(6.4)+(7.4)+(8.5)+
(9.4)+(10.2)+(11.2)+12+(15.2)+(20.2)+(25.2) /50

a média = 7,24 = $\bar{x}$

a amplitude = 25

$\|0-\bar{x}\|$	= 7,24
$\|1-\bar{x}\|$	= 6,24
$\|2-\bar{x}\|$	= 5,24
$\|3-\bar{x}\|$	= 4,24
$\|4-\bar{x}\|$	= 3,24
$\|5-\bar{x}\|$	= 2,24
$\|6-\bar{x}\|$	= 1,24
$\|7-\bar{x}\|$	= 0,24
$\|8-\bar{x}\|$	= 0,76
$\|9-\bar{x}\|$	= 1,76
$\|10-\bar{x}\|$	= 2,76
$\|11-\bar{x}\|$	= 3,76
$\|12-\bar{x}\|$	= 4,76
$\|15-\bar{x}\|$	= 5,76
$\|20-\bar{x}\|$	= 6,76
$\|25-\bar{x}\|$	= 7,76

$7,24^2 \cdot 2 = 52,42 \times 2 = 104,84$
$6,24^2 = 38,94 \times 4 = 155,75$
$5,24^2 = 27,457 \times 4 = 109,83$
$4,24^2 = 17,977 \times 4 = 71,91$
$3,24^2 = 10,497 \times 4 = 41,99$
$2,24^2 = 5,017 \times 4 = 20,07$
$1,24^2 = 1,537 \times 4 = 6,15$
$0,24^2 = 0,057 \times 4 = 0,23$
$0,76^2 = 0,577 \times 5 = 2,89$ +
$1,76^2 = 3,097 \times 4 = 12,39$
$2,76^2 = 7,617 \times 2 = 15,24$
$3,76^2 = 14,137 \times 2 = 28,28$
$4,76^2 = 22,66$
$5,76^2 = 33,177 \times 2 = 66,36$
$6,76^2 = 45,697 \times 2 = 91,40$
$7,76^2 = 60,217 \times 2 = 120,44$

Variância = 17,408 moda = 8 amplitude = 25
V = 17,408
$\bar{x}$ = 7,24
Desvio padrão S = $\sqrt{V}$ = 4,172
Coeficiente de variação CV = $\frac{4,172}{7,24} \cdot 100 = \%57,62$

spiral

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S T Q Q S S D

③

classes	fi	fr	fa	fra
150 ⊢ 160	7	9,21%	7	9,21%
160 ⊢ 170	29	38,15%	36	47,36%
170 ⊢ 180	24	31,58%	60	78,94%
180 ⊢ 190	14	18,42%	74	97,36%
190 ⊢ 200	2	2,63%	76	99,99%

a) 13009/76 = 171,08
$\bar{x}$ = 171,08

mediana: $\frac{172+171}{2} = 171,5$

moda (160+170)/2 = 165

b) Ponto médio
155
165
175
185
195

Amplitude = 198 − 150 = 42
42

Desvio médio: $\frac{\sum_{i=1}^{n} |x_i - \bar{x}|}{n} = 7,368$

Variância: $\frac{\sum_{i=1}^{n} |x_i - \bar{x}|^2}{n} = 81,421$

$S = \sqrt{V} = 9,023$

Coeficiente de variação: $\frac{S}{\bar{x}} \cdot 100$

CV = 5,27%

spiral