

# Bio Info Übung 7

7.1

	A	B	C
f <sub>1</sub>	22	2	3
f <sub>2</sub>	20	1	1
f <sub>3</sub>	18	0,5	0
f <sub>4</sub>	19	1	5
f <sub>5</sub>	19	2,5	1
f <sub>6</sub>	23	1,5	7
f <sub>7</sub>	17,5	0,5	0

Sortieren

X <sub>sort</sub>	A	B	C	X <sub>sort</sub>	Rank
17,5	0,5	0	0	6	I
18	0,5	0	0	6	II
19	1	1	1	7	III
19	1	1	1	7	IV
20	1,5	3	0	8	V
22	2	5	7	10	VI
23	2,5	7	0	11	VII

	Rank(x)				X <sub>norm</sub>		
	A	B	C		A	B	C
f <sub>1</sub>	VI	VI	V		f <sub>1</sub> 10	10	8
f <sub>2</sub>	V	III	III		f <sub>2</sub> 8	7	7
f <sub>3</sub>	II	I	I		f <sub>3</sub> 6	6	6
f <sub>4</sub>	III	IV	VI	→	f <sub>4</sub> 7	7	10
f <sub>5</sub>	IV	VII	IV		f <sub>5</sub> 7	11	7
f <sub>6</sub>	VII	V	VII		f <sub>6</sub> 11	8	11
f <sub>7</sub>	I	II	II		f <sub>7</sub> 6	6	6

7.2

Student T-Test

$$s^2 = \frac{1}{5+7-2} \left( (42-44)^2 + (38-44)^2 + (38-44)^2 + (60-44)^2 + (47-44)^2 + \right.$$

$$\bar{A} = 44$$

$$\bar{B} = 57$$

$$s_{B,A} = \frac{\sum_{i=1}^n (x_i - \bar{x})^2}{n} = 132,66$$

$$p\text{-value} = \frac{57 - 44}{\sqrt{\frac{6 \cdot 132,66 + 4 \cdot 66}{5+7-2} \cdot \sqrt{\frac{1}{5} + \frac{1}{7}}}} = 0,2102$$

Tabelle wert aus P Verteilung für 0,05 und n-6 = 2,447 > 0,2102