**ANALISIS DATA STATISTIK**

**PERHITUNGAN NILAI MEAN TERHADAP DATA**

**STANDAR DEVIASI**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **X** | **Y** | **X2** | **Y2** |
| 1 | 40 | 75 | 1600 | 5625 |
| 2 | 65 | 80 | 4225 | 6400 |
| 3 | 45 | 100 | 2025 | 10000 |
| 4 | 55 | 80 | 3025 | 6400 |
| 5 | 45 | 80 | 2025 | 6400 |
| 6 | 45 | 75 | 2025 | 5625 |
| 7 | 65 | 75 | 4225 | 5625 |
| 8 | 70 | 80 | 4900 | 6400 |
| 9 | 50 | 85 | 2500 | 7225 |
| 10 | 60 | 75 | 3600 | 5625 |
| 11 | 70 | 80 | 4900 | 6400 |
| 12 | 55 | 80 | 3025 | 6400 |
| 13 | 60 | 75 | 3600 | 5625 |
| 14 | 70 | 80 | 4900 | 6400 |
| 15 | 65 | 75 | 4225 | 5625 |
| 16 | 70 | 100 | 4900 | 10000 |
| 17 | 40 | 80 | 1600 | 6400 |
| 18 | 55 | 85 | 3025 | 7225 |
| 19 | 70 | 80 | 4900 | 6400 |
| 20 | 40 | 75 | 1600 | 5625 |
| 21 | 60 | 80 | 3600 | 6400 |
| 22 | 55 | 80 | 3025 | 6400 |
| 23 | 70 | 95 | 4900 | 9025 |
| 24 | 65 | 70 | 4225 | 4900 |
| 25 | 40 | 80 | 1600 | 6400 |
| 26 | 65 | 75 | 4225 | 5625 |
| 27 | 50 | 75 | 2500 | 5625 |
| 28 | 65 | 80 | 4225 | 6400 |
| **JUMLAH** | **1605** | **2250** | **95125** | **182200** |

1. Mencari mean *pretest* (x) dan *posttest* (y)
	* + 1. $Mx=\frac{\sum\_{}^{}y}{N}$

$$My=\frac{1605}{28}$$

$$My=57,32$$

* + - 1. $My=\frac{\sum\_{}^{}x}{N}$

$$Mx=\frac{2250}{28}$$

$$Mx=80,35$$

1. Nilai Standar Deviasi Kuadrat X dan Y
2. $SDx^{2}=\frac{\sum\_{}^{}x^{2}}{N}-Mx^{2}$

$$SDy^{2}=\frac{95125}{28}-(57,32)^{2}$$

$$=3397,32- 3285,74$$

$$=111,57$$

1. $SDy^{2}=\frac{\sum\_{}^{}y^{2}}{N}-My^{2}$

$$SDx^{2}=\frac{182200}{28}-(80,35)^{2}$$

$$SDx^{2}=6507,14-6457,27$$

$$SDx^{2}=49,87$$

1. Mencari standar deviasi mean kuadrat dari *posttest* dan *pretest :*
2. $SD^{2}Mx=\frac{SDx^{2}}{N-1}$

$$SD^{2}My=\frac{111,57}{28-1}$$

$$SD^{2}Mx=\frac{111,57}{27}$$

$$SD^{2}Mx=4,13$$

1. $SD^{2}My=\frac{SDy^{2}}{N-1}$

$$SD^{2}Mx=\frac{49,87}{28-1}$$

$$SD^{2}Mx=\frac{49,87}{27}$$

$$SD^{2}Mx=1,84$$

1. Nilai SDbm

$$SD\_{bm}=\sqrt{SD^{2}Mx+SD^{2}My}$$

$$SD\_{bm}=\sqrt{4,13+1,84}$$

$$SD\_{bm}=\sqrt{5,97}$$

$$=2,44$$

Setelah hasil perhitungan di atas selanjutnya gunakan rumus t-test :

$$t-test= \frac{Mx-My}{SD\_{bm}}$$

$$t-test=\frac{57,32-80,35}{2,44}$$

$$t-test=\frac{23,03}{2,44}$$

= 9,420

$$d.b=\left(Nx+Ny\right)-2$$

$$d.b=\left(28+28\right)-2$$

$$d.b=54$$

$$54=1,67356$$