**PERHITUNGAN NILAI UJI MEAN TERHADAP DATA SISWA HASIL KLS KONTROL DAN KLS EKSPERIMEN**

**LAMPIRAN 11**

1. **STANDAR DEVIASI**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **NO** | **Eksperimen** **(X1)** | $$X1^{2}$$ | **Kontrol** **(Y2)** | $$y2^{2}$$ | **(D)****(X1- Y2)** | $$D^{2}$$ |
| 1 | 65 | 4225 | 60 | 3600 | 5 | 25 |
| 2 | 85 | 7225 | 60 | 3600 | 25 | 625 |
| 3 | 85 | 7225 | 70 | 4900 | 15 | 225 |
| 4 | 85 | 7225 | 65 | 4225 | 20 | 400 |
| 5 | 80 | 6400 | 60 | 3600 | 20 | 400 |
| 6 | 75 | 5625 | 55 | 3025 | 20 | 400 |
| 7 | 65 | 4225 | 60 | 3600 | 5 | 25 |
| 8 | 60 | 3600 | 50 | 2500 | 10 | 100 |
| 9 | 70 | 4900 | 65 | 4225 | 5 | 25 |
| 10 | 65 | 4225 | 45 | 2025 | 20 | 400 |
| 11 | 90 | 8100 | 55 | 3025 | 35 | 1225 |
| 12 | 85 | 7225 | 60 | 3600 | 25 | 625 |
| 13 | 85 | 7225 | 65 | 4225 | 20 | 400 |
| 14 | 70 | 4900 | 40 | 1600 | 30 | 900 |
| 15 | 75 | 5625 | 50 | 2500 | 25 | 625 |
| 16 | 90 | 8100 | 70 | 4900 | 20 | 400 |
| 17 | 70 | 4900 | 45 | 2025 | 25 | 625 |
| 18 | 85 | 7225 | 65 | 4225 | 20 | 400 |
| 19 | 90 | 8100 | 65 | 4225 | 25 | 625 |
| 20 | 65 | 4225 | 60 | 3600 | 5 | 25 |
| 21 | 85 | 7225 | 65 | 4225 | 20 | 400 |
| 22 | 70 | 4900 | 60 | 3600 | 10 | 100 |
| 23 | 70 | 4900 | 60 | 3600 | 10 | 100 |
| **N** | **1765** | **137525** | **1350** | **80650** | **415** | **9075** |
|  | **76,73** | **5979,34** | **58,69** | **3506,52** | **18,04** | **394,56** |

1. Mencari nilai meanEksperimen (X) dan Kontrol(Y) dengan rumus:

$$a. M\_{x}=\frac{∑X}{N}$$

$$ =\frac{1765}{23}$$

$ =76,73$

$$b. M\_{y}=\frac{∑Y}{N}$$

$$ =\frac{1350}{23}$$

$$ =58,69$$

1. Mencari standar deviasi kuadrat kelompok X dan Y rumus:
2. $SDx^{2}=\frac{\sum\_{}^{}x^{2}}{N}-Mx^{2}$

$$ =\frac{137525}{23}-(76,73)^{2}$$

$$ =5979,34-5887,49$$

$$ =91,85$$

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

$$ =\frac{80650}{23}-(58,69)^{2}$$

$$ =3506,52-3444,51$$

$$ =62,01$$

1. Mencari standar deviasi mean kuadrat dari Eksperimen dan Kontrol dengan rumus:
2. $SD^{2}M\_{x}=\frac{SD\_{x^{2}}}{N -1}$

$$ =\frac{91,85}{23 -1}$$

$$ =\frac{91,85}{22}$$

$ =$4,175

1. $SD^{2}M\_{y}=\frac{SD\_{y^{2}}}{N -1}$

$$ =\frac{62,01}{23 -1}$$

$$ =\frac{62,01}{22}$$

$$ =2,818$$

1. Mencari SDbm menggunakan rumus

SDbm = $\sqrt{SD^{2}M\_{x}+ SD^{2}M\_{y}}$

$$ =\sqrt{4,175+2,818}$$

$$ =\sqrt{6,993}$$

$$ =2,6444$$

1. Selanjutnya sudah dapat digunakan rumus t-test
2. $t-test= \frac{M\_{x}-M\_{y}}{SD\_{bm}}$

$$ = \frac{76,73-58,69 }{2,6444}$$

$$ =\frac{18,04}{2,6444}$$

$ =$6,82196

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

$$ =\left(23+23\right)-2$$

$$ =46-2$$

$$ =44$$