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

**LAMPIRAN 10**

1. **STANDAR DEVIASI**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **NO** | **EKSPERI-MEN****(X)** | $$X^{2}$$ | **KONT-****ROL****(Y)** | $$Y^{2}$$ | **X . Y** |  |
| 1 | 55 | 3025 | 50 | 2500 | 2750 |
| 2 | 80 | 6400 | 65 | 4225 | 5200 |
| 3 | 75 | 5625 | 65 | 4225 | 4875 |
| 4 | 70 | 4900 | 45 | 2025 | 3150 |
| 5 | 65 | 4225 | 60 | 3600 | 3900 |
| 6 | 65 | 4225 | 60 | 3600 | 3900 |
| 7 | 80 | 6400 | 65 | 4225 | 5200 |
| 8 | 75 | 5625 | 60 | 3600 | 4500 |
| 9 | 75 | 5625 | 55 | 3025 | 4125 |
| 10 | 80 | 6400 | 65 | 4225 | 5200 |
| 11 | 60 | 3600 | 30 | 900 | 1800 |
| 12 | 55 | 3025 | 50 | 2500 | 2750 |
| 13 | 75 | 5625 | 65 | 4225 | 4875 |
| 14 | 75 | 5625 | 60 | 3600 | 4500 |
| 15 | 75 | 5625 | 65 | 4225 | 4875 |
| 16 | 75 | 5625 | 65 | 4225 | 4875 |
| 17 | 80 | 6400 | 50 | 2500 | 4000 |
| 18 | 90 | 8100 | 70 | 4900 | 6300 |
| 19 | 95 | 9025 | 45 | 2025 | 4275 |
| 20 | 75 | 5625 | 45 | 2025 | 3375 |
| 21 | 75 | 5625 | 70 | 4900 | 5250 |
| 22 | 75 | 5625 | 55 | 3025 | 4125 |
| 23 | 90 | 8100 | 65 | 4225 | 5850 |
| 24 | 75 | 5625 | 40 | 1600 | 3000 |
| 25 | 80 | 6400 | 55 | 3025 | 4400 |
| 26 | 85 | 7225 | 70 | 4900 | 5950 |
| 27 | 90 | 8100 | 60 | 3600 | 5400 |
| 28 | 75 | 5625 | 60 | 3600 | 4500 |
| 29 | 95 | 9025 | 45 | 2025 | 4275 |
| 30 | 85 | 7225 | 55 | 3025 | 4675 |
| 31 | 80 | 6400 | 50 | 2500 | 4000 |
| 32 | 90 | 8100 | 45 | 2025 | 4050 |
| 33 | 85 | 7225 | 60 | 3600 | 5100 |
| **N** | **2555** | **201025** | **1865** | **108425** | **145000** |
|  | **77,4242** | **6091,6666** | **56,5151** | **3285,6060** | **4393,939** |

1. Mencari nilai mean *Eksperimen* (X) dan *Kontrol* (Y) dengan rumus:

$$a. M\_{x}=\frac{∑X}{N}$$

$$ =\frac{2555}{33}$$

 $=77,4242$

$$ b. M\_{y}=\frac{∑Y}{N}$$

$$ =\frac{1865}{33}$$

$$ =56,5151$$

1. Mencari standar deviasi kuadrat kelompok X dan Y rumus:

$$a. SDx^{2}=\frac{\sum\_{}^{}x^{2}}{N}-Mx^{2}$$

$$ =\frac{201025}{33}-(77,4242)^{2}$$

$$ =6091,6666-5994,5067$$

$ = $97,1599

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

$$ =\frac{108425}{33}-(56,5151)^{2}$$

$$ 3285,6060-3193,9565$$

$$ =91,6495$$

1. Mencari standar deviasi mean kuadrat dari Posttest dan Pretest dengan rumus:

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

$$ =\frac{97,1599}{33 -1}$$

$$ =\frac{97,1599}{32}$$

$$ =3,0361$$

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

$$ =\frac{91,6495}{33 -1}$$

$$ =\frac{91,6495}{32}$$

$$ =2,8640$$

1. Mencari SDbm menggunakan rumus

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

$$ =\sqrt{2,8640+3,0361}$$

$$ =\sqrt{5,9001}$$

$$ =2,4290$$

1. Selanjutnya sudah dapat digunakan rumus t-test

$$a. t-test= \frac{M\_{x}-M\_{y}}{SD\_{bm}}$$

$$ = \frac{77,4242-56,5151}{2,4290}$$

$$ =\frac{20,9091}{2,4290}$$

$$ =8,6081$$

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

$$ =\left(33+33\right)-2$$

$$ =66-2$$

$$ =64$$