**Lampiran 11**

**ANALISIS DATAHASIL PRETEST DAN POSTTEST SISWA**

|  |  |
| --- | --- |
| **POSTTEST** | **PRETESET** |
| **X** | **F** | $$X^{2}$$ | **FX** | $$FX^{2}$$ | **Y** | **F** | $$Y^{2}$$ | **FY** | $$FY^{2}$$ |
| 90 | 4 | 8100 | 360 | 32400 | 75 | 1 | 5625 | 75 | 5625 |
| 85 | 4 | 7225 | 340 | 28900 | 70 | 2 | 4900 | 140 | 9800 |
| 80 | 4 | 6400 | 320 | 25600 | 65 | 2 | 4225 | 130 | 8450 |
| 75 | 3 | 5625 | 225 | 16875 | 60 | 5 | 3600 | 300 | 18000 |
| 70 | 3 | 4900 | 210 | 14700 | 55 | 1 | 3025 | 55 | 3025 |
| 65 | 1 | 4225 | 65 | 4225 | 50 | 4 | 2500 | 200 | 10000 |
| 60 | 1 | 3600 | 60 | 3600 | 45 | 3 | 2025 | 135 | 6075 |
| 55 | 1 | 3025 | 55 | 3025 | 40 | 4 | 1600 | 160 | 6400 |
| 50 | 1 | 2500 | 50 | 2500 | 0 | 0 | 0 | 0 | 0 |
| **630** | **22** | **45600** | **1685** | **131825** | **460** | **22** | **27500** | **1195** | **67375** |

1. Nilai rata-rata hasil belajar Posttest X

$$Mx=\frac{\sum\_{}^{}fx}{N}$$

$$Mx=\frac{1685}{22}$$

$$Mx=76,590991$$

1. Nilai rata-rata hasil belajar Pretest Y

$$My=\frac{\sum\_{}^{}fy}{N}$$

$$ =\frac{1195}{22}$$

 $=54,31818$

1. Nilai Standar Deviasi Kuadrat Posttest X

$$SDx^{2}=\frac{\sum\_{}^{}fx^{2}}{N}-Mx^{2}$$

$$SDx^{2}=\frac{131825}{22}-(76,59091)^{2}$$

$$SDx^{2}=5992,045-5866,167$$

$$SDx^{2}=125,8781$$

1. Nilai Standar Deviasi Kuadrat Pretest Y

$$SDy^{2}=\frac{\sum\_{}^{}fy^{2}}{N}-My^{2}$$

$$SDy^{2}=\frac{67375}{22}-(54,31818)^{2}$$

$SDy^{2}=3062,5-$2950,465

$$SDy^{2}=112,0351$$

1. Nilai Standar Deviasi rata-rata Kuadrat Posttest X

$$SD^{2}Mx=\frac{SDx^{2}}{N-1}$$

$$SD^{2}Mx=\frac{125,8781}{22-1}$$

$$SD^{2}Mx=\frac{125,8781}{21}$$

$SD^{2}Mx=$5,994195

1. Nilai Standar Deviasi rata-rata Kuadrat Pretest Y

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

$$SD^{2}My=\frac{112,0351}{22-1}$$

$$SD^{2}Mx=\frac{112,0351}{21}$$

$$SD^{2}Mx=5,335006$$

1. Nilai SDbm

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

$$SD\_{bm}=\sqrt{5,994195+5,335006}$$

$$SD\_{bm}=\sqrt{11,3292}$$

$$SD\_{bm}=3,365888$$

Setelah hasil perhitungan diatas selanjutnya gunakan rumus t-tes

$$t-test=\frac{M\_{X-}M\_{Y}}{SD\_{bm}}$$

 = $\frac{76,590991-54,31818}{3,365888}$

 = 6,617192

d.b = ( $N\_{X}$+$N\_{Y}$) - 2

 = (22+22) – 2

 = 42