

**Lampiran 1**

Tabel 8 : Data mentah tes Daya ledak otot lengan

| <b>No</b> | <b>1</b> | <b>2</b> | <b>3</b> | <b>tertinggi</b> |
|-----------|----------|----------|----------|------------------|
| 1         | 4        | 4,3      | 4,25     | 4,3              |
| 2         | 3,95     | 3,9      | 4,1      | 4,1              |
| 3         | 4,3      | 4        | 4,15     | 4,3              |
| 4         | 4        | 3,9      | 4        | 4                |
| 5         | 4        | 4,1      | 4,2      | 4,2              |
| 6         | 3,9      | 4,1      | 4        | 4,1              |
| 7         | 3,85     | 3,95     | 4,1      | 4,1              |
| 8         | 4,2      | 4,15     | 4        | 4,2              |
| 9         | 4        | 4,2      | 4,15     | 3                |
| 10        | 4        | 4,1      | 4        | 4,1              |
| 11        | 4        | 3,9      | 4        | 4                |
| 12        | 4,1      | 4,2      | 4,2      | 4,2              |
| 13        | 3,9      | 4        | 3,95     | 4                |
| 14        | 4,1      | 4,1      | 4        | 4,1              |
| 15        | 4        | 4        | 3,9      | 4                |
| 16        | 4,1      | 4        | 4,1      | 4,1              |
| 17        | 4,2      | 4,3      | 4,25     | ,3               |
| 18        | 4,1      | 4        | 4,05     | 4,1              |
| 19        | 3,8      | 3,9      | 3,85     | 3,9              |
| 20        | 4,2      | 4,1      | 4,1      | 4,2              |

Tabel 9 : Data mentah tes Koordinasi mata tangan

| No | 1  | 2  | 3  | tertinggi |
|----|----|----|----|-----------|
| 1  | 25 | 33 | 26 | 33        |
| 2  | 30 | 28 | 25 | 30        |
| 3  | 20 | 30 | 21 | 30        |
| 4  | 30 | 22 | 25 | 30        |
| 5  | 20 | 15 | 31 | 31        |
| 6  | 17 | 21 | 25 | 25        |
| 7  | 19 | 26 | 21 | 26        |
| 8  | 17 | 23 | 21 | 23        |
| 9  | 16 | 29 | 20 | 29        |
| 10 | 25 | 27 | 18 | 27        |
| 11 | 19 | 21 | 20 | 21        |
| 12 | 16 | 20 | 18 | 20        |
| 13 | 20 | 25 | 23 | 25        |
| 14 | 15 | 24 | 20 | 24        |
| 15 | 21 | 23 | 26 | 26        |
| 16 | 13 | 22 | 20 | 22        |
| 17 | 25 | 18 | 20 | 25        |
| 18 | 28 | 20 | 26 | 28        |
| 19 | 19 | 22 | 24 | 24        |
| 20 | 19 | 21 | 25 | 25        |

Tabel 10 : Data mentah tes Ketepatan servis atas

| <b>No</b> | <b>1</b> | <b>2</b> | <b>3</b> | <b>4</b> | <b>5</b> | <b>6</b> | <b>7</b> | <b>8</b> | <b>9</b> | <b>10</b> | <b>Jumlah</b> |
|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|---------------|
| <b>1</b>  | 3        | 4        | 2        | 4        | 3        | 2        | 2        | 4        | 3        | 4         | 31            |
| <b>2</b>  | 4        | 3        | 4        | 3        | 2        | 2        | 4        | 3        | 4        | 3         | 32            |
| <b>3</b>  | 3        | 4        | 2        | 4        | 3        | 0        | 3        | 4        | 3        | 4         | 30            |
| <b>4</b>  | 0        | 4        | 4        | 2        | 3        | 4        | 4        | 2        | 4        | 3         | 30            |
| <b>5</b>  | 4        | 2        | 3        | 4        | 2        | 4        | 4        | 2        | 4        | 4         | 33            |
| <b>6</b>  | 4        | 4        | 4        | 3        | 4        | 4        | 3        | 3        | 4        | 4         | 34            |
| <b>7</b>  | 1        | 4        | 2        | 4        | 4        | 4        | 1        | 4        | 4        | 3         | 31            |
| <b>8</b>  | 3        | 1        | 4        | 0        | 4        | 4        | 4        | 3        | 4        | 1         | 28            |
| <b>9</b>  | 3        | 4        | 2        | 4        | 2        | 1        | 4        | 2        | 0        | 4         | 26            |
| <b>10</b> | 2        | 4        | 3        | 4        | 1        | 4        | 4        | 1        | 1        | 2         | 26            |
| <b>11</b> | 4        | 3        | 2        | 2        | 4        | 4        | 2        | 0        | 2        | 2         | 25            |
| <b>12</b> | 2        | 3        | 4        | 4        | 0        | 2        | 4        | 4        | 2        | 0         | 25            |
| <b>13</b> | 0        | 1        | 4        | 3        | 4        | 4        | 3        | 1        | 4        | 4         | 28            |
| <b>14</b> | 2        | 3        | 4        | 2        | 2        | 4        | 2        | 2        | 4        | 4         | 29            |
| <b>15</b> | 1        | 4        | 0        | 3        | 2        | 2        | 4        | 2        | 3        | 3         | 24            |
| <b>16</b> | 3        | 4        | 2        | 4        | 3        | 4        | 3        | 0        | 4        | 3         | 30            |
| <b>17</b> | 2        | 2        | 3        | 4        | 2        | 4        | 3        | 4        | 3        | 4         | 31            |
| <b>18</b> | 3        | 4        | 2        | 4        | 3        | 0        | 4        | 2        | 4        | 4         | 30            |
| <b>19</b> | 1        | 2        | 0        | 2        | 4        | 3        | 2        | 4        | 2        | 3         | 23            |
| <b>20</b> | 3        | 4        | 3        | 4        | 4        | 0        | 4        | 3        | 4        | 3         | 32            |

## Lampiran 2

### Variabel

a. Distribusi data Daya ledak otot lengan

$$\begin{aligned} \text{Rentang} &= \text{data terbesar} - \text{data terkecil} \\ &= 4,3 - 3 \\ &= 1,3 \end{aligned}$$

$$\begin{aligned} \text{Banyak kelas} &= 1 + (3,3) \log n \\ &= 1 + (3,3) \log 20 \\ &= 1 + (3,3) 1,301 \\ &= 1 + 4,2933 \\ &= 5,2933 = 5 \text{ kelas} \end{aligned}$$

$$\begin{aligned} \text{Panjang Kelas} &= \frac{\text{rentang}}{\text{banyakkelas}} \\ &= \frac{1,3}{6} \\ &= 0,216 \end{aligned}$$

$$\begin{aligned} \text{Nilai Tengah} &= \frac{\text{Batasatas} + \text{BatasBawah}}{2} \\ &= \frac{4,8 + 2,5}{2} \\ &= 3,65 \end{aligned}$$

b. Distribusi data koodinasi mata tangan

$$\begin{aligned} \text{Rentang} &= \text{data terbesar} - \text{data terkecil} \\ &= 33 - 20 \\ &= 13 \end{aligned}$$

$$\begin{aligned} \text{Banyak kelas} &= 1 + (3,3) \log n \\ &= 1 + (3,3) \log 20 \\ &= 1 + (3,3) 1,301 \\ &= 1 + 4,2933 \end{aligned}$$

$$= 5,2933 = 5 \text{ kelas}$$

$$\begin{aligned} \text{Panjang Kelas} &= \frac{\text{rentang}}{\text{banyakkelas}} \\ &= \frac{13}{6} \\ &= 2,16 = 3 \\ \text{Nilai Tengah} &= \frac{\text{Batasatas} + \text{BatasBawah}}{2} \\ &= \frac{33,5 + 19,5}{2} = 26,5 \end{aligned}$$

c. Distribusi data ketepatan servis atas bola voli

$$\begin{aligned} \text{Rentang} &= \text{data terbesar} - \text{data terkecil} \\ &= 34 - 23 \\ &= 11 \end{aligned}$$

$$\begin{aligned} \text{Banyak kelas} &= 1 + (3,3) \log n \\ &= 1 + (3,3) \log 20 \\ &= 1 + (3,3) 1,301 \\ &= 1 + 4,2933 \\ &= 5,2933 = 5 \text{ kelas} \end{aligned}$$

$$\begin{aligned} \text{Panjang Kelas} &= \frac{\text{rentang}}{\text{banyakkelas}} \\ &= \frac{11}{6} \\ &= 1,83 = 2 \end{aligned}$$

$$\begin{aligned} \text{Nilai Tengah} &= \frac{\text{Batasatas} + \text{BatasBawah}}{2} \\ &= \frac{34,5 + 22,5}{2} = 28,5 \end{aligned}$$

### Lampiran 3

Tabel 11 : Data mentah hasil tes daya ledak otot lengan (  $X_1$  ) dengan skor, tes koordinasi mata tangan (  $X_2$  ) dengan skor dan tes ketepatan servis atas (  $Y$  ) dengan skor

| No       | $X_1$ | $X_2$ | $Y$ |
|----------|-------|-------|-----|
| 1        | 4.3   | 33    | 31  |
| 2        | 4.1   | 30    | 32  |
| 3        | 4.3   | 30    | 30  |
| 4        | 4     | 30    | 30  |
| 5        | 4.2   | 31    | 33  |
| 6        | 4.2   | 25    | 34  |
| 7        | 4.1   | 26    | 31  |
| 8        | 4.1   | 23    | 28  |
| 9        | 4.2   | 29    | 26  |
| 10       | 3     | 27    | 26  |
| 11       | 4     | 21    | 25  |
| 12       | 4.2   | 20    | 25  |
| 13       | 4     | 25    | 28  |
| 14       | 4.1   | 24    | 29  |
| 15       | 4     | 26    | 24  |
| 16       | 4.1   | 22    | 30  |
| 17       | 3     | 25    | 31  |
| 18       | 4.1   | 28    | 30  |
| 19       | 3.9   | 24    | 23  |
| 20       | 4.2   | 25    | 32  |
| $\Sigma$ | 80    | 524   | 578 |

#### Lampiran 4

Tabel 12 : Data mentah hasil tes daya ledak otot lengan (  $X_1$  ) dengan skor, tes koordinasi mata tangan (  $X_2$  ) dengan skor dan tes ketepatan servis atas (  $Y$  ) dengan skor

| No       | $X_1$ | $X_2$ | $Y$ | $X_1^2$ | $X_2^2$ | $Y^2$ | $X_1Y$ | $X_2Y$ | $X_1X_2$ |
|----------|-------|-------|-----|---------|---------|-------|--------|--------|----------|
| 1        | 4.3   | 33    | 31  | 18.49   | 1089    | 961   | 133.3  | 1023   | 141.9    |
| 2        | 4.1   | 30    | 32  | 16.81   | 900     | 1024  | 131.2  | 960    | 123      |
| 3        | 4.3   | 30    | 30  | 18.49   | 900     | 900   | 129    | 900    | 129      |
| 4        | 4     | 30    | 30  | 16      | 900     | 900   | 120    | 900    | 120      |
| 5        | 4.2   | 31    | 33  | 17.64   | 961     | 1089  | 138.6  | 1023   | 130.2    |
| 6        | 4.1   | 25    | 34  | 16.81   | 625     | 1156  | 139.4  | 850    | 102.5    |
| 7        | 4.1   | 26    | 31  | 16.81   | 676     | 961   | 127.1  | 806    | 106.6    |
| 8        | 4.2   | 23    | 28  | 17.64   | 529     | 784   | 117.6  | 644    | 96.6     |
| 9        | 3     | 29    | 26  | 9       | 841     | 676   | 78     | 754    | 87       |
| 10       | 4.1   | 27    | 26  | 16.81   | 729     | 676   | 106.6  | 702    | 110.7    |
| 11       | 4     | 21    | 25  | 16      | 441     | 625   | 100    | 525    | 84       |
| 12       | 4.2   | 20    | 25  | 17.64   | 400     | 625   | 105    | 500    | 84       |
| 13       | 4     | 25    | 28  | 16      | 625     | 784   | 112    | 700    | 100      |
| 14       | 4.1   | 24    | 29  | 16.81   | 576     | 841   | 118.9  | 696    | 98.4     |
| 15       | 4     | 26    | 24  | 16      | 676     | 576   | 96     | 624    | 104      |
| 16       | 4.1   | 22    | 30  | 16.81   | 484     | 900   | 123    | 660    | 90.2     |
| 17       | 3     | 25    | 31  | 9       | 625     | 961   | 93     | 775    | 75       |
| 18       | 4.1   | 28    | 30  | 16.81   | 784     | 900   | 123    | 840    | 114.8    |
| 19       | 3.9   | 24    | 23  | 15.21   | 576     | 529   | 89.7   | 552    | 93.6     |
| 20       | 4.2   | 25    | 32  | 17.64   | 625     | 1024  | 134.4  | 800    | 105      |
| $\Sigma$ | 80    | 524   | 578 | 322.42  | 13962   | 16892 | 2315.8 | 15234  | 2096.5   |

## Lampiran 5

Langkah-langkah perhitungan :

Perhitungan T-skor hasil pengukuran daya ledak otot lengan ( $X_1$ ), koordinasi mata tangan ( $X_2$ ), dan ketepatan servis atas (Y)

Menggunakan rumus

$$T \text{ skor} = 50 \pm 10 \frac{(X-\bar{X})}{SD}$$

Langkah-langkah perhitungan :

A. Menghitung rata-rata, simpangan baku dan varians

a. Variabel daya ledak otot lengan ( $X_1$ )

Diketahui :  $\sum x_1 = 94$

$\sum x_1^2 = 445,5$

$n = 20$

$$\begin{aligned} 1. \text{ Rata-rata } x_1 &= \frac{\sum x_1}{n} \\ &= \frac{80}{20} \\ &= 4 \end{aligned}$$

$$\begin{aligned} 2. \text{ Simpangan baku} &= \frac{\sqrt{n\sum x_1^2 - (\sum x_1)^2}}{n(n-1)} \\ &= \frac{\sqrt{20 \cdot 322,42 - (80)^2}}{20(20-1)} \end{aligned}$$



$$\begin{aligned}
 &= \frac{\overline{6884,4 - 6400}}{380} \\
 &= \frac{\overline{48,4}}{380} \\
 &= \overline{0,127} = 0,356
 \end{aligned}$$

3. Varians = 0,127

b. Variabel koordinasi mata tangan ( $X_2$ )

Diketahui :  $\Sigma x_2 = 273$        $\Sigma x_2^2 = 3821$        $n = 20$

1. Rata-rata  $x_2$  =  $\frac{\Sigma x_2}{n}$

$$\begin{aligned}
 &= \frac{524}{20} \\
 &= 26,2
 \end{aligned}$$

2. Simpangan baku =  $\frac{\overline{n\Sigma x_2^2 - (\Sigma x)^2}}{n(n-1)}$

$$\begin{aligned}
 &= \frac{\overline{20.13962 - (524)^2}}{20(20-1)} \\
 &= \frac{\overline{279240 - 274576}}{380} \\
 &= \frac{\overline{4664}}{380}
 \end{aligned}$$

$$= \overline{12,27} = 3,50$$

$$3. \text{ Varians} = 12,27$$

c. Variabel ketepatan servis atas (Y)

$$\text{Diketahui : } \Sigma Y = 606 \quad \Sigma Y^2 = 18500 \quad n = 20$$

$$\begin{aligned} 1. \text{ Rata-rata } Y &= \frac{\Sigma Y}{n} \\ &= \frac{578}{20} \\ &= 28,9 \end{aligned}$$

$$\begin{aligned} 2. \text{ Simpangan baku} &= \frac{\overline{n\Sigma Y^2 - (\Sigma Y)^2}}{n(n-1)} \\ &= \frac{\overline{20.16892 - (578)^2}}{20(20-1)} \\ &= \frac{\overline{337840 - 334084}}{380} \\ &= \frac{\overline{3756}}{380} \\ &= \overline{9,884} = 3,143 \end{aligned}$$

$$3. \text{ Varians} = 9,884$$

## Lampiran 6

### B. Menentukan T Skor

Contoh : n ke 1 dari  $X_1$

$$T \text{ Skor} = 50 + 10 \frac{(4,3-4)}{0,356}$$

$$= 50 + 10 \frac{0,3}{0,356}$$

$$= 50 + (8,42)$$

$$= 58,42$$

Contoh : n ke 1 dari  $X_2$

$$T \text{ Skor} = 50 + 10 \frac{(33-26,2)}{3,50}$$

$$= 50 + 10 \frac{6,8}{3,50}$$

$$= 50 + (19,42)$$

$$= 69,42$$

Contoh : n ke 1 dari Y

$$T \text{ Skor} = 50 + 10 \frac{(31-28,9)}{3,143}$$

$$= 50 + 10 \frac{2,1}{3,143}$$

$$= 50 + (6,68)$$

$$= 56,68$$

## Lampiran 7

Tabel 13 : Daftar hasil tes Daya ledak otot lengan, Koordinasi mata-tangan dan keberhasilan servis atas

Data sebelum T skor

| No       | X <sub>1</sub> | X <sub>2</sub> | Y          |
|----------|----------------|----------------|------------|
| 1        | 4.3            | 33             | 31         |
| 2        | 4.1            | 30             | 32         |
| 3        | 4.3            | 30             | 30         |
| 4        | 4              | 30             | 30         |
| 5        | 4.2            | 31             | 33         |
| 6        | 4.1            | 25             | 34         |
| 7        | 4.1            | 26             | 31         |
| 8        | 4.2            | 23             | 28         |
| 9        | 3              | 29             | 26         |
| 10       | 4.1            | 27             | 26         |
| 11       | 4              | 21             | 25         |
| 12       | 4.2            | 20             | 25         |
| 13       | 4              | 25             | 28         |
| 14       | 4.1            | 24             | 29         |
| 15       | 4              | 26             | 24         |
| 16       | 4.1            | 22             | 30         |
| 17       | 3              | 25             | 31         |
| 18       | 4.1            | 28             | 30         |
| 19       | 3.9            | 24             | 23         |
| 20       | 4.2            | 25             | 32         |
| <b>Σ</b> | <b>80</b>      | <b>524</b>     | <b>578</b> |

Data sesudah T skor

| No       | X <sub>1</sub> | X <sub>2</sub> | Y           |
|----------|----------------|----------------|-------------|
| 1        | 58.42          | 69.42          | 56.68       |
| 2        | 52.8           | 60.85          | 59.86       |
| 3        | 58.42          | 60.85          | 53.49       |
| 4        | 50.62          | 60.85          | 53.49       |
| 5        | 55.61          | 63.8           | 63.04       |
| 6        | 52.8           | 46.57          | 66.33       |
| 7        | 52.8           | 49.42          | 56.68       |
| 8        | 55.1           | 40.85          | 47.13       |
| 9        | 21.91          | 58             | 40.77       |
| 10       | 52.8           | 52.28          | 40.77       |
| 11       | 50             | 35.14          | 37.59       |
| 12       | 55.61          | 32.28          | 37.59       |
| 13       | 50             | 46.57          | 47.13       |
| 14       | 52.8           | 43.71          | 50.31       |
| 15       | 50             | 49.42          | 34.4        |
| 16       | 52.8           | 38             | 53.49       |
| 17       | 21.91          | 46.57          | 56.68       |
| 18       | 52.8           | 55.14          | 53.49       |
| 19       | 47.19          | 43.71          | 31.22       |
| 20       | 55.61          | 46.57          | 59.86       |
| <b>Σ</b> | <b>1000</b>    | <b>1000</b>    | <b>1000</b> |

## Lampiran 8

Tabel 14 : Data perhitungan korelasi dan regresi

| No       | X <sub>1</sub> | X <sub>2</sub> | Y           | X <sub>1</sub> <sup>2</sup> | X <sub>2</sub> <sup>2</sup> | Y <sup>2</sup> | X <sub>1</sub> Y | X <sub>2</sub> Y | X <sub>1</sub> X <sub>2</sub> |
|----------|----------------|----------------|-------------|-----------------------------|-----------------------------|----------------|------------------|------------------|-------------------------------|
| 1        | 58.42          | 69.42          | 56.68       | 3412.8964                   | 4819.1364                   | 3212.6224      | 3311.2456        | 3934.7256        | 4055.5164                     |
| 2        | 52.8           | 60.85          | 59.86       | 2787.84                     | 3702.7225                   | 3583.2196      | 3160.608         | 3642.481         | 3212.88                       |
| 3        | 58.42          | 60.85          | 53.49       | 3412.8964                   | 3702.7225                   | 2861.1801      | 3124.8858        | 3254.8665        | 3554.857                      |
| 4        | 50.62          | 60.85          | 53.49       | 2562.3844                   | 3702.7225                   | 2861.1801      | 2707.6638        | 3254.8665        | 3080.227                      |
| 5        | 55.61          | 63.8           | 63.04       | 3092.4721                   | 4070.44                     | 3974.0416      | 3505.6544        | 4021.952         | 3547.918                      |
| 6        | 52.8           | 46.57          | 66.33       | 2787.84                     | 2168.7649                   | 4399.6689      | 3502.224         | 3088.9881        | 2458.896                      |
| 7        | 52.8           | 49.42          | 56.68       | 2787.84                     | 2442.3364                   | 3212.6224      | 2992.704         | 2801.1256        | 2609.376                      |
| 8        | 55.1           | 40.85          | 47.13       | 3036.01                     | 1668.7225                   | 2221.2369      | 2596.863         | 1925.2605        | 2250.835                      |
| 9        | 21.91          | 58             | 40.77       | 480.0481                    | 3364                        | 1662.1929      | 893.2707         | 2364.66          | 1270.78                       |
| 10       | 52.8           | 52.28          | 40.77       | 2787.84                     | 2733.1984                   | 1662.1929      | 2152.656         | 2131.4556        | 2760.384                      |
| 11       | 50             | 35.14          | 37.59       | 2500                        | 1234.8196                   | 1413.0081      | 1879.5           | 1320.9126        | 1757                          |
| 12       | 55.61          | 32.28          | 37.59       | 3092.4721                   | 1041.9984                   | 1413.0081      | 2090.3799        | 1213.4052        | 1795.0908                     |
| 13       | 50             | 46.57          | 47.13       | 2500                        | 2168.7649                   | 2221.2369      | 2356.5           | 2194.8441        | 2328.5                        |
| 14       | 52.8           | 43.71          | 50.31       | 2787.84                     | 1910.5641                   | 2531.0961      | 2656.368         | 2199.0501        | 2307.888                      |
| 15       | 50             | 49.42          | 34.4        | 2500                        | 2442.3364                   | 1183.36        | 1720             | 1700.048         | 2471                          |
| 16       | 52.8           | 38             | 53.49       | 2787.84                     | 1444                        | 2861.1801      | 2824.272         | 2032.62          | 2006.4                        |
| 17       | 21.91          | 46.57          | 56.68       | 480.0481                    | 2168.7649                   | 3212.6224      | 1241.8588        | 2639.5876        | 1020.3487                     |
| 18       | 52.8           | 55.14          | 53.49       | 2787.84                     | 3040.4196                   | 2861.1801      | 2824.272         | 2949.4386        | 2911.392                      |
| 19       | 47.19          | 43.71          | 31.22       | 2226.8961                   | 1910.5641                   | 974.6884       | 1473.2718        | 1364.6262        | 2062.6749                     |
| 20       | 55.61          | 46.57          | 59.86       | 3092.4721                   | 2168.7649                   | 3583.2196      | 3328.8146        | 2787.6802        | 2589.7577                     |
| <b>Σ</b> | <b>1000</b>    | <b>1000</b>    | <b>1000</b> | 51903.4758                  | 51905.763                   | 51904.7576     | 50343.0124       | 50822.594        | 50051.7215                    |

## Lampiran 9

a. Variabel Daya ledak otot lengan ( $X_1$ )

Diketahui :  $\sum x_1 = 1000$        $\sum x_1^2 = 51903,475$        $n = 20$

$$1. \text{ Rata-rata } x_1 = \frac{\sum x_1}{n}$$

$$= \frac{1000}{20}$$

$$= 50$$

$$2. \text{ Simpangan baku} = \frac{\sqrt{n\sum x_1^2 - (\sum x_1)^2}}{n(n-1)}$$

$$= \frac{\sqrt{20 \cdot 51903,475 - (1000)^2}}{20(20-1)}$$

$$= \frac{\sqrt{1038069,5 - 1000000}}{380}$$

$$= \frac{\sqrt{38069,5}}{380}$$

$$= \frac{192,535}{380} = 10,00913$$

$$3. \text{ Varians} = 100,1828$$

b. Variabel koordinasi mata-tangan ( $X_2$ )

Diketahui :  $\sum x_2 = 1000$        $\sum x_2^2 = 51905,763$        $n = 20$

$$\begin{aligned}
 1. \text{ Rata-rata } x_2 &= \frac{\sum x_2}{n} \\
 &= \frac{1000}{20} \\
 &= 50
 \end{aligned}$$

$$\begin{aligned}
 2. \text{ Simpangan baku} &= \frac{\sqrt{n\sum x_2^2 - (\sum x)^2}}{n(n-1)} \\
 &= \frac{\sqrt{20 \cdot 51905,763 - (1000)^2}}{20(20-1)} \\
 &= \frac{\sqrt{1038115,26 - 1000000}}{380} \\
 &= \frac{\sqrt{38115,26}}{380} \\
 &= \sqrt{100,3033} = 10,0151
 \end{aligned}$$

$$3. \text{ Varians} = 100,3033$$

c. Variabel keberhasilan servis atas (Y)

$$\text{Diketahui : } \sum Y = 1000 \qquad \sum Y^2 = 51904,757 \qquad n = 20$$



$$1. \text{ Rata-rata } Y = \frac{\Sigma Y}{n}$$

$$= \frac{1000}{20}$$

$$= 50$$

$$2. \text{ Simpangan baku} = \frac{\sqrt{n\Sigma Y^2 - (\Sigma Y)^2}}{n(n-1)}$$

$$= \frac{\sqrt{20.51904,757 - (1000)^2}}{20(20-1)}$$

$$= \frac{\sqrt{1038095,14 - 1000000}}{380}$$

$$= \frac{\sqrt{38095,14}}{380}$$

$$= \sqrt{100,2503} = 10,0125$$

$$3. \text{ Varians} = 100,2503$$

## Lampiran 10

Mencari Persamaan Regresi

1. Regresi Y ke  $X_1$

|             |                            |                            |
|-------------|----------------------------|----------------------------|
| Diketahui : | $\Sigma x_1 = 1000$        | $\Sigma Y = 1000$          |
|             | $\Sigma x_1^2 = 51903,475$ | $\Sigma Y^2 = 51904,757$   |
|             | $n = 20$                   | $\Sigma x_1 Y = 50343,012$ |

$$\begin{aligned}
 \text{a.} &= \frac{(\Sigma Y)(\Sigma X_1^2) - (\Sigma X_1)(\Sigma X_1 Y)}{n(\Sigma X_1^2) - (\Sigma X_1)^2} \\
 &= \frac{(1000)(51903,475) - (1000)(50343,012)}{20(51903,475) - (1000)^2} \\
 &= \frac{51903475 - 50343012}{1038069,5 - 1000000} \\
 &= \frac{1560463}{38069,52} \\
 &= \mathbf{40,98}
 \end{aligned}$$

$$\begin{aligned}
 \text{b.} &= \frac{n(\Sigma X_1 Y) - (\Sigma X_1)(\Sigma Y)}{n(\Sigma X_1^2) - (\Sigma X_1)^2} \\
 &= \frac{20(50343,012) - (1000)(1000)}{20(51903,475) - (1000)^2} \\
 &= \frac{1006860,24 - 1000000}{1038000 - 1000000}
 \end{aligned}$$

$$= \frac{31674,4}{38000}$$

$$= \mathbf{0,83}$$

Jadi persamaan regresi Y terhadap  $X_1$  adalah  $Y = 40,98 + 0,83 X_1$

## 2. Regresi Y ke $X_2$

|             |                            |                            |
|-------------|----------------------------|----------------------------|
| Diketahui : | $\Sigma x_2 = 1000$        | $\Sigma Y = 1000$          |
|             | $\Sigma x_2^2 = 51905,763$ | $\Sigma Y^2 = 51904,757$   |
|             | $n = 20$                   | $\Sigma x_2 Y = 50822,594$ |

$$\begin{aligned} \text{a. } &= \frac{\Sigma Y \Sigma X_2^2 - \Sigma X_2 \Sigma X_2 Y}{n \Sigma X_2^2 - (\Sigma X_2)^2} \\ &= \frac{1000 \cdot 51905,763 - 1000 \cdot 50822,594}{20 \cdot 51905,763 - 1000^2} \\ &= \frac{51905763 - 50822594}{1038115,26 - 1000000} \\ &= \frac{1083169}{38115,26} \\ &= \mathbf{28,418} \end{aligned}$$

$$\text{b. } = \frac{n(\Sigma X_2 Y) - (\Sigma X_2)(\Sigma Y)}{n(\Sigma X_2^2) - (\Sigma X_2)^2}$$

$$\begin{aligned}
&= \frac{20(50822,594) - (1000)(1000)}{20(51905,763) - (1000)^2} \\
&= \frac{1016451,88 - 1000000}{1038115,26 - 1000000} \\
&= \frac{16451,88}{38115,26} = \mathbf{0,431}
\end{aligned}$$

Jadi persamaan regresi Y terhadap  $X_2$  adalah  $Y = 28,418 + 0,431 X_2$

3. Regresi ganda Y atas  $X_1$  dan  $X_2 \rightarrow \hat{Y} = b_0 + b_1X_1 + b_2X_2$  dicari dengan rumus berikut :

$$b_0 = \bar{Y} - b_1x_1 - b_2x_2$$

$$b_1 = \frac{\sum X_2^2 \sum X_1 Y - \sum X_1 X_2 \sum X_2 Y}{\sum X_1^2 \sum X_2^2 - \sum X_1 X_2^2}$$

$$b_2 = \frac{\sum X_1^2 \sum X_2 Y - \sum X_1 X_2 \sum X_1 Y}{\sum X_1^2 \sum X_2^2 - \sum X_1 X_2^2}$$

Dimana :

$$\sum Y^2 = \sum Y^2 - \frac{(\sum Y)^2}{n}$$

$$\sum X_1^2 = \sum X_1^2 - \frac{(\sum X_1)^2}{n}$$

$$\sum X_2^2 = \sum X_2^2 - \frac{(\sum X_2)^2}{n}$$

$$\Sigma X_1 Y = \Sigma X_1 Y - \frac{(\Sigma X_1)(\Sigma Y)}{n}$$

$$\Sigma X_2 Y = \Sigma X_2 Y - \frac{\Sigma X_2 \Sigma Y}{n}$$

$$\Sigma X_1 X_2 = \Sigma X_1 X_2 - \frac{(\Sigma X_1)(\Sigma X_2)}{n}$$

Diketahui :

$$\bar{Y} = 28,9 \quad \Sigma Y = 1000 \quad \Sigma Y^2 = 51904,757 \quad \Sigma X_1 X_2 = 50051,721$$

$$X_1 = 4 \quad \Sigma X_1 = 1000 \quad \Sigma X_1^2 = 51903,475 \quad \Sigma X_1 Y = 50343,012$$

$$X_2 = 26,2 \quad \Sigma X_2 = 1000 \quad \Sigma X_2^2 = 51905,763 \quad \Sigma X_2 Y = 50822,594$$

Jadi :

$$\begin{aligned} \Sigma Y^2 &= \Sigma Y^2 - \frac{\Sigma Y^2}{n} \\ &= 51904,757 - \frac{1000^2}{20} \\ &= 51904,757 - 50000 \\ &= \mathbf{1904,757} \end{aligned}$$

$$\begin{aligned}
\Sigma X_1 Y &= \Sigma X_1 Y - \frac{\Sigma X_1 \Sigma Y}{n} \\
&= 50343,012 - \frac{1000 \cdot 1000}{20} \\
&= 50343,012 - 50000 \\
&= \mathbf{343,012}
\end{aligned}$$

$$\begin{aligned}
\Sigma X_2 Y &= \Sigma X_2 Y - \frac{\Sigma X_2 \Sigma Y}{n} \\
&= 50822,594 - \frac{1000 \cdot 1000}{20} \\
&= 50822,594 - 50000 \\
&= \mathbf{822,594}
\end{aligned}$$

$$\begin{aligned}
\Sigma X_1^2 &= \Sigma X_1^2 - \frac{\Sigma X_1^2}{n} \\
&= 51903,475 - \frac{1000^2}{20} \\
&= 51903,475 - 50000 \\
&= \mathbf{1903,475}
\end{aligned}$$

$$\begin{aligned}
\Sigma X_2^2 &= \Sigma X_2^2 - \frac{\Sigma X_2^2}{n} \\
&= 51905,763 - \frac{1000^2}{20} \\
&= 51905,763 - 50000 \\
&= \mathbf{1905,763}
\end{aligned}$$

$$\begin{aligned}
\Sigma X_1 X_2 &= \Sigma X_1 X_2 - \frac{(\Sigma X_1)(\Sigma X_2)}{n} \\
&= 50051,721 - \frac{(1000)(1000)}{20} \\
&= 50051,721 - 50000 \\
&= \mathbf{51,721}
\end{aligned}$$

$$\begin{aligned}
b_1 &= \frac{\Sigma X_2^2 \Sigma X_1 Y - \Sigma X_1 X_2 \Sigma X_2 Y}{\Sigma X_1^2 \Sigma X_2^2 - \Sigma X_1 X_2^2} \\
&= \frac{1905,763 \cdot 343,012 - (51,721)(822,594)}{1903,475 \cdot 1905,763 - (51,721)^2} \\
&= \frac{653699,578 - 42545,384}{3627572,226 - 2675,061} \\
&= \frac{611154,194}{3624897,165} \\
&= \mathbf{0,168}
\end{aligned}$$

$$\begin{aligned}
 b_2 &= \frac{\sum X_1^2 \sum X_2 Y - \sum X_1 X_2 \sum X_1 Y}{\sum X_1^2 \sum X_2^2 - \sum X_1 X_2^2} \\
 &= \frac{1903,475 \quad 822,594 - (51,721)(343,012)}{1903,475 \quad 1905,763 - (51,721)^2} \\
 &= \frac{1565787,114 - 17740,923}{3627572,226 - 2675,061} \\
 &= \frac{1548046,191}{3624897,165} \\
 &= \mathbf{0,427}
 \end{aligned}$$

$$\begin{aligned}
 b_0 &= \bar{Y} - b_1 X_1 - b_2 X_2 \\
 &= 28,9 - (0,168)(4) - (0,427)(26,2) \\
 &= 28,9 - 0,627 - 11,1874 \\
 &= \mathbf{16,18}
 \end{aligned}$$

Jadi persamaan regresi ganda Y atas  $X_1$  dan  $X_2$  adalah  $Y = 16,18 + 0,168X_1 + 0,427X_2$



## Lampiran 11

Mencari koefisien korelasi, uji keberartian koefisien korelasi

### 1. Koefisien korelasi $r_{y_1}$

$$\begin{aligned}
 r &= \frac{n\Sigma X_1 Y - (\Sigma X_1)(\Sigma Y)}{(n\Sigma X_1^2 - \Sigma X_1^2)(n\Sigma Y^2 - \Sigma Y^2)} \\
 &= \frac{20.50343,012 - (1000)(1000)}{(20.51903,475 - 1000^2)(20.51904,757 - 1000^2)} \\
 &= \frac{1031674,4 - 1000000}{(1038000 - 1000000)(1038000 - 1000000)} \\
 &= \frac{31674,4}{38000 \times 38000} \\
 &= \mathbf{0,83}
 \end{aligned}$$

### 2. Uji keberartian koefisien korelasi

$$\begin{aligned}
 th &= \frac{r \sqrt{n-2}}{1-r^2} \\
 &= \frac{0,83 \sqrt{20-2}}{1-(0,83)^2}
 \end{aligned}$$

$$= \frac{3,520}{0,746}$$

$$= \mathbf{4.718}$$

$$\text{Tabel dk} = n-2$$

$$= 20-2$$

$$= 18$$

$$\text{T tabel} = dk: 1 - \frac{1}{2}X$$

$$= 18: 1 - \frac{1}{2}0,05$$

$$= 18: 0,975$$

$$= 2,101$$

Berarti :

T tabel dengan  $X=0,05$   $dk=18$  diperoleh tabel sebesar 2,101, karena t hitung  $=4,718 > t$  tabel  $= 2,101$  dengan demikian kita tolak  $H_0$  berarti koefisien korelasi 0,83 adalah signifikan.

### 3. Koefisien korelasi $r_y$

$$\begin{aligned}
 r &= \frac{n\sum X_2 Y - (\sum X_2)(\sum Y)}{(n\sum X_2^2 - \sum X_2^2)(n\sum Y^2 - \sum Y^2)} \\
 &= \frac{20.50822,594 - (1000)(1000)}{(20.51905,763 - 1000^2)(20.51904,757 - 1000^2)} \\
 &= \frac{1016451,88 - 1000000}{(1038115,26 - 1000000)(1038095,14 - 1000000)} \\
 &= \frac{16451,88}{1452006165,84} \\
 &= \mathbf{0,431}
 \end{aligned}$$

### 4. Uji keberartian koefisien korelasi

$$\begin{aligned}
 th &= \frac{r \sqrt{n-2}}{1-r^2} \\
 &= \frac{0,431 \sqrt{20-2}}{1-(0,431)^2} \\
 &= \frac{2.828}{0,815} \\
 &= \mathbf{3,135}
 \end{aligned}$$

$$\begin{aligned} \text{Tabel dk} &= n-2 \\ &= 20-2 \\ &= 18 \end{aligned}$$

$$\begin{aligned} \text{T tabel} &= dk: 1 - \frac{1}{2}X \\ &= 18: 1 - \frac{1}{2}0,05 \\ &= 18: 0,975 \\ &= 2,101 \end{aligned}$$

Berarti :

T tabel dengan  $X=0,05$   $dk=18$  diperoleh tabel sebesar 2,101, karena  $t$  hitung = 3,135 >  $t$  tabel = 2,101 dengan demikian kita tolak  $H_0$ . berarti koefisien korelasi 0,431 adalah signifikan.

#### 5. Mencari $ry_{1-2}$ (koefisien korelasi ganda)

$$\begin{aligned} \text{JK (Reg)} &= b_1 \sum x_1y + b_2 \sum x_2y \\ &= 0,79. (1583.72) + 0,20. (1108.549) \\ &= 1251,13 + 221,708 \\ &= \mathbf{1472.83} \end{aligned}$$

$$\begin{aligned}
 R_{y_{12}} &= \sqrt{JK \frac{(Reg)}{Y^2}} \\
 &= \sqrt{\frac{1472.83}{1900}} \\
 &= \sqrt{0,775} \\
 &= \mathbf{0,87}
 \end{aligned}$$

6. Uji keberartian koefisien korelasi ganda

$$\begin{aligned}
 F &= \frac{r^2 k}{1-r^2 \frac{n-k-1}{n-k-1}} \\
 &= \frac{(0,87)^2/2}{(1 - (0,87)^2)/20 - 2 - 1} \\
 &= \frac{0,75/2}{0,24/17} \\
 &= \frac{0,37}{0,01} \\
 &= 37
 \end{aligned}$$

F tabel dicari dengan melihat daftar distribusi F dengan cacah prediktor = 2 sebagai pembilang dan  $(n-k-1) = 17$  sebagai penyebut didapat F tabel sebesar 3,49 karena F hitung = 30 > F tabel 3,49 , maka koefisien korelasi ganda  $R_{y_{12}} = 0,87$  adalah signifikan.

## Lampiran 12

Tabel 16 : Distribusi t

## DISTRIBUSI STUDENT'S t

| dk  | $\alpha$ Untuk Uji Dua Pihak  |       |       |        |        |        |
|-----|-------------------------------|-------|-------|--------|--------|--------|
|     | 0,50                          | 0,20  | 0,10  | 0,05   | 0,02   | 0,01   |
|     | $\alpha$ Untuk Uji Satu Pihak |       |       |        |        |        |
|     | 0,25                          | 0,10  | 0,05  | 0,025  | 0,01   | 0,005  |
| 1   | 1,000                         | 3,078 | 6,314 | 12,706 | 31,821 | 63,657 |
| 2   | 0,816                         | 1,886 | 2,920 | 4,303  | 6,965  | 9,925  |
| 3   | 0,765                         | 1,638 | 2,353 | 3,182  | 4,541  | 5,841  |
| 4   | 0,741                         | 1,533 | 2,132 | 2,776  | 3,747  | 4,604  |
| 5   | 0,727                         | 1,476 | 2,015 | 2,571  | 3,365  | 4,032  |
| 6   | 0,718                         | 1,440 | 1,943 | 2,447  | 3,143  | 3,707  |
| 7   | 0,711                         | 1,415 | 1,895 | 2,365  | 2,998  | 3,499  |
| 8   | 0,706                         | 1,397 | 1,860 | 2,306  | 2,896  | 3,355  |
| 9   | 0,703                         | 1,383 | 1,833 | 2,262  | 2,821  | 3,250  |
| 10  | 0,700                         | 1,372 | 1,812 | 2,228  | 2,764  | 3,169  |
| 11  | 0,697                         | 1,363 | 1,796 | 2,201  | 2,718  | 3,106  |
| 12  | 0,695                         | 1,356 | 1,782 | 2,178  | 2,681  | 3,055  |
| 13  | 0,694                         | 1,350 | 1,771 | 2,160  | 2,650  | 3,012  |
| 14  | 0,692                         | 1,345 | 1,761 | 2,145  | 2,624  | 2,977  |
| 15  | 0,691                         | 1,341 | 1,753 | 2,132  | 2,623  | 2,947  |
| 16  | 0,690                         | 1,337 | 1,746 | 2,120  | 2,583  | 2,921  |
| 17  | 0,689                         | 1,333 | 1,740 | 2,110  | 2,567  | 2,898  |
| 18  | 0,688                         | 1,330 | 1,734 | 2,101  | 2,552  | 2,878  |
| 19  | 0,688                         | 1,328 | 1,729 | 2,093  | 2,539  | 2,861  |
| 20  | 0,687                         | 1,325 | 1,725 | 2,086  | 2,528  | 2,845  |
| 21  | 0,686                         | 1,323 | 1,721 | 2,080  | 2,518  | 2,831  |
| 22  | 0,686                         | 1,321 | 1,717 | 2,074  | 2,508  | 2,819  |
| 23  | 0,685                         | 1,319 | 1,714 | 2,069  | 2,500  | 2,807  |
| 24  | 0,685                         | 1,318 | 1,711 | 2,064  | 2,492  | 2,797  |
| 25  | 0,684                         | 1,316 | 1,708 | 2,060  | 2,485  | 2,787  |
| 26  | 0,684                         | 1,315 | 1,706 | 2,056  | 2,479  | 2,779  |
| 27  | 0,684                         | 1,314 | 1,703 | 2,052  | 2,473  | 2,771  |
| 28  | 0,683                         | 1,313 | 1,701 | 2,048  | 2,467  | 2,763  |
| 29  | 0,683                         | 1,311 | 1,699 | 2,045  | 2,462  | 2,756  |
| 30  | 0,683                         | 1,310 | 1,697 | 2,042  | 2,457  | 2,750  |
| 40  | 0,681                         | 1,303 | 1,684 | 2,021  | 2,423  | 2,704  |
| 60  | 0,679                         | 1,296 | 1,671 | 2,000  | 2,390  | 2,660  |
| 120 | 0,677                         | 1,289 | 1,658 | 1,980  | 2,358  | 2,617  |
|     | 0,674                         | 1,282 | 1,645 | 1,960  | 2,326  | 2,576  |

## Lampiran 13

Tabel 17 : Distribusi F

| Titik Persentase Distribusi F untuk Probabilita = 0,05 |                         |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|--|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| df untuk penyebut (N2)                                 | df untuk pembilang (N1) |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|  | 1                       | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    |
| 1  | 161                     | 199   | 216   | 225   | 230   | 234   | 237   | 239   | 241   | 242   | 243   | 244   | 245   | 245   | 246   |
| 2  | 18.51                   | 19.00 | 19.16 | 19.25 | 19.30 | 19.33 | 19.35 | 19.37 | 19.38 | 19.40 | 19.40 | 19.41 | 19.42 | 19.42 | 19.43 |
| 3  | 10.13                   | 9.55  | 9.28  | 9.12  | 9.01  | 8.94  | 8.89  | 8.85  | 8.81  | 8.79  | 8.76  | 8.74  | 8.73  | 8.71  | 8.70  |
| 4  | 7.71                    | 6.94  | 6.59  | 6.39  | 6.26  | 6.16  | 6.09  | 6.04  | 6.00  | 5.96  | 5.94  | 5.91  | 5.89  | 5.87  | 5.86  |
| 5  | 6.61                    | 5.79  | 5.41  | 5.19  | 5.05  | 4.95  | 4.88  | 4.82  | 4.77  | 4.74  | 4.70  | 4.68  | 4.66  | 4.64  | 4.62  |
| 6  | 5.99                    | 5.14  | 4.76  | 4.53  | 4.39  | 4.28  | 4.21  | 4.15  | 4.10  | 4.06  | 4.03  | 4.00  | 3.98  | 3.96  | 3.94  |
| 7  | 5.59                    | 4.74  | 4.35  | 4.12  | 3.97  | 3.87  | 3.79  | 3.73  | 3.68  | 3.64  | 3.60  | 3.57  | 3.55  | 3.53  | 3.51  |
| 8  | 5.32                    | 4.46  | 4.07  | 3.84  | 3.69  | 3.58  | 3.50  | 3.44  | 3.39  | 3.35  | 3.31  | 3.28  | 3.26  | 3.24  | 3.22  |
| 9  | 5.12                    | 4.26  | 3.86  | 3.63  | 3.48  | 3.37  | 3.29  | 3.23  | 3.18  | 3.14  | 3.10  | 3.07  | 3.05  | 3.03  | 3.01  |
| 10   | 4.96                    | 4.10  | 3.71  | 3.48  | 3.33  | 3.22  | 3.14  | 3.07  | 3.02  | 2.98  | 2.94  | 2.91  | 2.89  | 2.86  | 2.85  |
| 11   | 4.84                    | 3.98  | 3.59  | 3.36  | 3.20  | 3.09  | 3.01  | 2.95  | 2.90  | 2.85  | 2.82  | 2.79  | 2.76  | 2.74  | 2.72  |
| 12   | 4.75                    | 3.89  | 3.49  | 3.26  | 3.11  | 3.00  | 2.91  | 2.85  | 2.80  | 2.75  | 2.72  | 2.69  | 2.66  | 2.64  | 2.62  |
| 13   | 4.67                    | 3.81  | 3.41  | 3.18  | 3.03  | 2.92  | 2.83  | 2.77  | 2.71  | 2.67  | 2.63  | 2.60  | 2.58  | 2.55  | 2.53  |
| 14   | 4.60                    | 3.74  | 3.34  | 3.11  | 2.96  | 2.85  | 2.76  | 2.70  | 2.65  | 2.60  | 2.57  | 2.53  | 2.51  | 2.48  | 2.46  |
| 15   | 4.54                    | 3.68  | 3.29  | 3.06  | 2.90  | 2.79  | 2.71  | 2.64  | 2.59  | 2.54  | 2.51  | 2.48  | 2.45  | 2.42  | 2.40  |
| 16   | 4.49                    | 3.63  | 3.24  | 3.01  | 2.85  | 2.74  | 2.66  | 2.59  | 2.54  | 2.49  | 2.46  | 2.42  | 2.40  | 2.37  | 2.35  |
| 17   | 4.45                    | 3.59  | 3.20  | 2.96  | 2.81  | 2.70  | 2.61  | 2.55  | 2.49  | 2.45  | 2.41  | 2.38  | 2.35  | 2.33  | 2.31  |
| 18   | 4.41                    | 3.55  | 3.16  | 2.93  | 2.77  | 2.66  | 2.58  | 2.51  | 2.46  | 2.41  | 2.37  | 2.34  | 2.31  | 2.29  | 2.27  |
| 19   | 4.38                    | 3.52  | 3.13  | 2.90  | 2.74  | 2.63  | 2.54  | 2.48  | 2.42  | 2.38  | 2.34  | 2.31  | 2.28  | 2.26  | 2.23  |
| 20   | 4.35                    | 3.49  | 3.10  | 2.87  | 2.71  | 2.60  | 2.51  | 2.45  | 2.39  | 2.35  | 2.31  | 2.28  | 2.25  | 2.22  | 2.20  |
| 21   | 4.32                    | 3.47  | 3.07  | 2.84  | 2.68  | 2.57  | 2.49  | 2.42  | 2.37  | 2.32  | 2.28  | 2.25  | 2.22  | 2.20  | 2.18  |
| 22   | 4.30                    | 3.44  | 3.05  | 2.82  | 2.66  | 2.55  | 2.46  | 2.40  | 2.34  | 2.30  | 2.26  | 2.23  | 2.20  | 2.17  | 2.15  |
| 23   | 4.28                    | 3.42  | 3.03  | 2.80  | 2.64  | 2.53  | 2.44  | 2.37  | 2.32  | 2.27  | 2.24  | 2.20  | 2.18  | 2.15  | 2.13  |
| 24   | 4.26                    | 3.40  | 3.01  | 2.78  | 2.62  | 2.51  | 2.42  | 2.36  | 2.30  | 2.25  | 2.22  | 2.18  | 2.15  | 2.13  | 2.11  |
| 25   | 4.24                    | 3.39  | 2.99  | 2.76  | 2.60  | 2.49  | 2.40  | 2.34  | 2.28  | 2.24  | 2.20  | 2.16  | 2.14  | 2.11  | 2.09  |
| 26   | 4.23                    | 3.37  | 2.98  | 2.74  | 2.59  | 2.47  | 2.39  | 2.32  | 2.27  | 2.22  | 2.18  | 2.15  | 2.12  | 2.09  | 2.07  |
| 27   | 4.21                    | 3.35  | 2.96  | 2.73  | 2.57  | 2.46  | 2.37  | 2.31  | 2.25  | 2.20  | 2.17  | 2.13  | 2.10  | 2.08  | 2.06  |
| 28   | 4.20                    | 3.34  | 2.95  | 2.71  | 2.56  | 2.45  | 2.36  | 2.29  | 2.24  | 2.19  | 2.15  | 2.12  | 2.09  | 2.06  | 2.04  |
| 29   | 4.18                    | 3.33  | 2.93  | 2.70  | 2.55  | 2.43  | 2.35  | 2.28  | 2.22  | 2.18  | 2.14  | 2.10  | 2.08  | 2.05  | 2.03  |
| 30   | 4.17                    | 3.32  | 2.92  | 2.69  | 2.53  | 2.42  | 2.33  | 2.27  | 2.21  | 2.16  | 2.13  | 2.09  | 2.06  | 2.04  | 2.01  |
| 31   | 4.16                    | 3.30  | 2.91  | 2.68  | 2.52  | 2.41  | 2.32  | 2.25  | 2.20  | 2.15  | 2.11  | 2.08  | 2.05  | 2.03  | 2.00  |
| 32   | 4.15                    | 3.29  | 2.90  | 2.67  | 2.51  | 2.40  | 2.31  | 2.24  | 2.19  | 2.14  | 2.10  | 2.07  | 2.04  | 2.01  | 1.99  |
| 33   | 4.14                    | 3.28  | 2.89  | 2.66  | 2.50  | 2.39  | 2.30  | 2.23  | 2.18  | 2.13  | 2.09  | 2.06  | 2.03  | 2.00  | 1.98  |
| 34   | 4.13                    | 3.28  | 2.88  | 2.65  | 2.49  | 2.38  | 2.29  | 2.23  | 2.17  | 2.12  | 2.08  | 2.05  | 2.02  | 1.99  | 1.97  |
| 35   | 4.12                    | 3.27  | 2.87  | 2.64  | 2.49  | 2.37  | 2.29  | 2.22  | 2.16  | 2.11  | 2.07  | 2.04  | 2.01  | 1.99  | 1.96  |
| 36   | 4.11                    | 3.26  | 2.87  | 2.63  | 2.48  | 2.36  | 2.28  | 2.21  | 2.15  | 2.11  | 2.07  | 2.03  | 2.00  | 1.98  | 1.95  |
| 37   | 4.11                    | 3.25  | 2.86  | 2.63  | 2.47  | 2.36  | 2.27  | 2.20  | 2.14  | 2.10  | 2.06  | 2.02  | 2.00  | 1.97  | 1.95  |
| 38   | 4.10                    | 3.24  | 2.85  | 2.62  | 2.46  | 2.35  | 2.26  | 2.19  | 2.14  | 2.09  | 2.05  | 2.02  | 1.99  | 1.96  | 1.94  |
| 39   | 4.09                    | 3.24  | 2.85  | 2.61  | 2.46  | 2.34  | 2.26  | 2.19  | 2.13  | 2.08  | 2.04  | 2.01  | 1.98  | 1.95  | 1.93  |
| 40   | 4.08                    | 3.23  | 2.84  | 2.61  | 2.45  | 2.34  | 2.25  | 2.18  | 2.12  | 2.08  | 2.04  | 2.00  | 1.97  | 1.95  | 1.92  |
| 41   | 4.08                    | 3.23  | 2.83  | 2.60  | 2.44  | 2.33  | 2.24  | 2.17  | 2.12  | 2.07  | 2.03  | 2.00  | 1.97  | 1.94  | 1.92  |
| 42   | 4.07                    | 3.22  | 2.83  | 2.59  | 2.44  | 2.32  | 2.24  | 2.17  | 2.11  | 2.06  | 2.03  | 1.99  | 1.96  | 1.94  | 1.91  |
| 43   | 4.07                    | 3.21  | 2.82  | 2.59  | 2.43  | 2.32  | 2.23  | 2.16  | 2.11  | 2.06  | 2.02  | 1.99  | 1.96  | 1.93  | 1.91  |
| 44   | 4.06                    | 3.21  | 2.82  | 2.58  | 2.43  | 2.31  | 2.23  | 2.16  | 2.10  | 2.05  | 2.01  | 1.98  | 1.95  | 1.92  | 1.90  |
| 45   | 4.06                    | 3.20  | 2.81  | 2.58  | 2.42  | 2.31  | 2.22  | 2.15  | 2.10  | 2.05  | 2.01  | 1.97  | 1.94  | 1.92  | 1.89  |



## Lampiran 14

Foto – foto Penelitian



**Gambar 8. Pelaksanaan tes koordinasi mata tangan**



**Gambar 9. Pelaksanaan tes daya ledak otot lengan**



**Gambar 10. Pelaksanaan tes servis atas boa voli**



**Gambar 11. lapangan tes bola voli dari FRENCH COOPER**



**Gambar 12. siswa ekstrakurikler bola voli SMA N 01 JASINGA**