1. **Fit / Calculate / Estimate / Find / Compute the regression line taking X as an independent variable or Y on X.**

The estimated regression line Y on X is:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Data** | | **First Method** | | **Second Method** | |
|  |  |  |  |  |  |
| 78 | 125 | 9750 | 6084 | 0 | 9 |
| 89 | 137 | 12193 | 7921 | 168 | 196 |
| 97 | 156 | 15132 | 9409 | 682 | 484 |
| 69 | 112 | 7728 | 4761 | 78 | 36 |
| 59 | 107 | 6313 | 3481 | 288 | 256 |
| 79 | 136 | 10744 | 6241 | 44 | 16 |
| 68 | 123 | 8364 | 4624 | 14 | 49 |
| 61 | 104 | 6344 | 3721 | 294 | 196 |
| **600** | **1000** | **76568** | **46242** | **1568** | **1242** |

1. **Compute the trend values and verify that**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
| 78 | 125 | 15625 | 128.7874 | 14.34469883 |
| 89 | 137 | 18769 | 142.6747 | 32.20242661 |
| 97 | 156 | 24336 | 152.7746 | 10.40348148 |
| 69 | 112 | 12544 | 117.4251 | 29.4319354 |
| 59 | 107 | 11449 | 104.8003 | 4.838583034 |
| 79 | 136 | 18496 | 130.0499 | 35.40345814 |
| 68 | 123 | 15129 | 116.1626 | 46.74947944 |
| 61 | 104 | 10816 | 107.3253 | 11.05749907 |
| **600** | **1000** | **127164** | **1000** | **184.431562** |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Data Set** | | **First Method** | | **Second Method** | |
|  |  |  |  |  |  |
| 78 | 125 | 9750 | 15625 | 0 | 0 |
| 89 | 137 | 12193 | 18769 | 168 | 144 |
| 97 | 156 | 15132 | 24336 | 682 | 961 |
| 69 | 112 | 7728 | 12544 | 78 | 169 |
| 59 | 107 | 6313 | 11449 | 288 | 324 |
| 79 | 136 | 10744 | 18496 | 44 | 121 |
| 68 | 123 | 8364 | 15129 | 14 | 4 |
| 61 | 104 | 6344 | 10816 | 294 | 441 |
| **600** | **1000** | **76568** | **127164** | **1568** | **2164** |

1. **Fit / Calculate / Estimate / Find / Compute the regression line taking Y as an independent variable or X on Y.**

The estimated regression line X on Y is:

1. **Compute the trend values and verify that**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
| 78 | 125 | 6084 | 75 | 9 |
| 89 | 137 | 7921 | 83.69501 | 28.14293 |
| 97 | 156 | 9409 | 97.46211 | 0.213543 |
| 69 | 112 | 4761 | 65.58041 | 11.69362 |
| 59 | 107 | 3481 | 61.95749 | 8.746724 |
| 79 | 136 | 6241 | 82.97043 | 15.76428 |
| 68 | 123 | 4624 | 73.55083 | 30.81173 |
| 61 | 104 | 3721 | 59.78373 | 1.479303 |
| **600** | **1000** | **46242** | **600** | **105.8521** |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Data** | | **First Method** | | | **Second Method** | | |
|  |  |  |  |  |  |  |  |
| 78 | 125 | 9750 | 6084 | 15625 | 0 | 9 | 0 |
| 89 | 137 | 12193 | 7921 | 18769 | 168 | 196 | 144 |
| 97 | 156 | 15132 | 9409 | 24336 | 682 | 484 | 961 |
| 69 | 112 | 7728 | 4761 | 12544 | 78 | 36 | 169 |
| 59 | 107 | 6313 | 3481 | 11449 | 288 | 256 | 324 |
| 79 | 136 | 10744 | 6241 | 18496 | 44 | 16 | 121 |
| 68 | 123 | 8364 | 4624 | 15129 | 14 | 49 | 4 |
| 61 | 104 | 6344 | 3721 | 10816 | 294 | 196 | 441 |
| **600** | **1000** | **76568** | **46242** | **127164** | **1568** | **1242** | **2164** |

1. **Compute / Calculate / Find the coefficient of correlation and interpret the result.**