6. a. Compute the correlation between age in months and number of words known.

b. Test for the significance of the correlation at the .05 level of significance.

c. Interpret this correlation.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Age in Months | Number of Words Known | X2 | Y2 | XY |
| 12.00 | 6.00 | 144.00 | 36.00 | 72.00 |
| 15.00 | 8.00 | 225.00 | 64.00 | 120.00 |
| 9.00 | 4.00 | 81.00 | 16.00 | 36.00 |
| 7.00 | 5.00 | 49.00 | 25.00 | 35.00 |
| 18.00 | 14.00 | 324.00 | 196.00 | 252.00 |
| 24.00 | 18.00 | 576.00 | 324.00 | 432.00 |
| 15.00 | 7.00 | 225.00 | 49.00 | 105.00 |
| 16.00 | 6.00 | 256.00 | 36.00 | 96.00 |
| 21.00 | 12.00 | 441.00 | 144.00 | 252.00 |
| 15.00 | 17.00 | 225.00 | 289.00 | 255.00 |
| 152 | 97 | 2546 | 1179 | 1655 |

Sum

Rxy = (10 x 1655) – (152 x 97)

√ [(10 x 2546) – 1522] [(10 x1179) – 972]

Rxy = 1806 =

How do you compute the denominator?

16550 – 14744 = 1806

25460 – 23104 11790 - 9409