

$$R^2_{1.23} = \frac{r^2_{12} + r^2_{13} - 2r_{12}r_{13}r_{23}}{1 - r^2_{23}} \quad \text{(Square of coefficient of multiple correlation with three variables)} \quad (16.1)$$

Note that this formula is for the square of the multiple correlation.

Source:

Guilford, J. P. (1965). *Fundamental statistics in psychology and education* (4th ed.). New York: McGraw-Hill.

Formula 16.1 appears on page 394.