

1. If $\mathbf{Y} = \sum_{i=1}^n \mathbf{X}_i$ where $\mathbf{X}_1, \mathbf{X}_2, \dots, \mathbf{X}_n$ are mutually independent, then

$$K_{\mathbf{Y}} = \sum_{i=1}^n K_{\mathbf{X}_i}.$$

2. When \mathbf{X}_i are scalars, this reduces to

$$\text{var } Y = \sum_{i=1}^n \text{var } X_i.$$