$$\sum_{i=1}^{n}(x_i - \bar{x})(y_i - \bar{y})$$

$$\left[\sum_{i=1}^{n}(x_i - \bar{x})^2 \sum_{i=1}^{n}(y_i - \bar{y})^2\right]^{1/2}$$

$$R = \frac{\sum_{i=1}^{n}(x_i - \bar{x})(y_i - \bar{y})}{[\sum_{i=1}^{n}(x_i - \bar{x})^2 \sum_{i=1}^{n}(y_i - \bar{y})^2]^{1/2}}$$

$$\sum_{i=1}^{n}(x_i - \bar{x})(y_i - \bar{y})$$

$$\left[\sum_{i=1}^{n}(x_i - \bar{x})^2 \sum_{i=1}^{n}(y_i - \bar{y})^2\right]^{1/2}$$

$$R = \frac{\sum_{i=1}^{n}(x_i - \bar{x})(y_i - \bar{y})}{[\sum_{i=1}^{n}(x_i - \bar{x})^2 \sum_{i=1}^{n}(y_i - \bar{y})^2]^{1/2}}$$

Satz des Pythagoras:

$$c = \sqrt{a^2 + b^2}$$

Seien $\mathbf{a}, \mathbf{b} \in \mathbb{R}$, dann gilt $\mathbf{(a + b)^2 = a^2 + 2ab + b^2}$

$$\begin{aligned}
\int_R f(x,y)\,dV &= \int_0^a \left(\int_0^b xe^{xy}\,dy\right)\,dx \\
&= \int_0^a \left(x \cdot \left[\frac{1}{x}e^{xy}\right]_{y=0}^{y=b}\right)\,dx \\
&= \int_0^a (e^{xb} - 1)\,dx \\
&= \left[\frac{1}{b}e^{xb} - x\right]_0^a \\
&= \frac{1}{b}(e^{ab} - 1) - a
\end{aligned}$$

$$
\begin{aligned}
\int_R f(x,y)\,dV &= \int_0^a \left(\int_0^b x e^{xy}\,dy \right)\,dx \\
&= \int_0^a \left(x \cdot \left[\frac{1}{x} e^{xy} \right]_{y=0}^{y=b} \right)\,dx \\
&= \int_0^a (e^{xb} - 1)\,dx
\end{aligned}
$$