1.6

$$\begin{aligned} \mathrm{cov}(x,y) &= E[(x-E[x])(y-E[y])] \\ &= E[xy - xE[y] - E[x]y + E[x]E[y]] \\ &= E[xy] - E[x]E[y] - E[x]E[y] + E[x]E[y] \\ &= E[xy] - E[x]E[y] \end{aligned}$$

if x, y are independent, $E[xy] = E[x]E[y]$

$$\Rightarrow \mathrm{cov}(x,y) = 0$$

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