

P. 22

R_A を A株の収益率 (確率変数)

R_B を B株の収益率 (確率変数) とする.

$$\begin{aligned} E[R_A] &= \frac{1}{3} \times (-1.0\%) + \frac{1}{3} \times 2.0\% + \frac{1}{3} \times 5.0\% \\ &= \frac{-1.0\% + 2.0\% + 5.0\%}{3} = 2.0\% \end{aligned}$$

$$\begin{aligned} E[R_B] &= \frac{1}{3} \times (-5.0\%) + \frac{1}{3} \times 2.0\% + \frac{1}{3} \times 9.0\% \\ &= \frac{-5.0\% + 2.0\% + 9.0\%}{3} = 2.0\% \end{aligned}$$

P. 28

$$\textcircled{1} \quad E[X] = \frac{1}{2} \times 1 + \frac{1}{2} \times (-1) = 0$$

$$\text{Var}[X] = \frac{1}{2} (1-0)^2 + \frac{1}{2} (-1-0)^2 = 1$$

$$\sigma_X = \sqrt{1} = 1$$

$$\textcircled{2} \quad E[Y] = \frac{1}{2} \times 10 + \frac{1}{2} \times (-10) = 0$$

$$\text{Var}[Y] = \frac{1}{2} (10-0)^2 + \frac{1}{2} (-10-0)^2 = 100$$

$$\sigma_Y = \sqrt{100} = 10$$

XとYの期待値はともにゼロだが、

分散と標準偏差は異なる点に注意!