

P.43

$$\textcircled{1} \quad \mathbb{E}[-2X + Y + 3] = -2\mathbb{E}[X] + \mathbb{E}[Y] + 3$$
$$= -2 \times 3 + 4 + 3 = 1$$

$$\textcircled{2} \quad \text{Var}[-2X + Y] = (-2)^2 \text{Var}[X] + 1^2 \text{Var}[Y] + 2 \times (-2) \times 1 \times \text{Cov}[X, Y]$$
$$= (-2)^2 \times 3 + 1^2 \times 4 + 2 \times (-2) \times 1 \times (-2) = 24$$

$$\textcircled{3} \quad \text{Var}[-2X + Y] = (-2)^2 \text{Var}[X] + 1^2 \text{Var}[Y] + 2 \times (-2) \times 1 \times \text{Cov}[X, Y]$$
$$= (-2)^2 \times 3 + 1^2 \times 4 = 16$$