

$$\begin{aligned}
 E(xr) &= 2 \times 0.24 + 6 \times 0.144 + 12 \times 0.0864 \\
 &+ 16 \times 0.1296 = 0.48 + 0.864 + 1.0368 \\
 &+ 16.1296 = \underline{\underline{18.5104}}
 \end{aligned}$$

$$\textcircled{4} \begin{array}{c|c|c|c|c|c|c} Y & 0 & 1 & 2 & 3 & 4 & \text{Total} \\ \hline P(Y=y) & 0.4 & 0.24 & 0.144 & 0.0864 & (0.6)^4 & 1 \end{array}$$

$$\begin{aligned}
 E(Y) &= 0.24 + 0.288 + 0.2592 + 0.5184 \\
 &= 1.3056
 \end{aligned}$$

$$\begin{aligned}
 E(Y^2) &= 0.24 + 0.576 + 0.7776 + 2.0736 \\
 &= 3.6692
 \end{aligned}$$

$$\begin{aligned}
 V(Y) &= 3.6692 - 1.3056 \\
 &= 2.3636
 \end{aligned}$$

$$\therefore \underline{\underline{2.3636}}$$