

$$\textcircled{1} X_1 = 2 \rightarrow 1/36$$

$$X_2 = 3 \rightarrow 2/36$$

$$X_3 = 4 \rightarrow 3/36$$

$$X_4 = 5 \rightarrow 4/36$$

$$X_5 = 6 \rightarrow 5/36$$

$$X_6 = 7 \rightarrow 6/36$$

$$X_7 = 8 \rightarrow 5/36$$

$$X_8 = 9 \rightarrow 4/36$$

$$X_9 = 10 \rightarrow 3/36$$

$$X_{10} = 11 \rightarrow 2/36$$

$$X_{11} = 12 \rightarrow 1/36$$

$$e) E(X) = 2 \cdot \frac{1}{36} + 3 \cdot \frac{2}{36} + 4 \cdot \frac{3}{36} + 5 \cdot \frac{4}{36} + 6 \cdot \frac{5}{36} + 7 \cdot \frac{6}{36} + 8 \cdot \frac{5}{36} + 9 \cdot \frac{4}{36} + 10 \cdot \frac{3}{36} + 11 \cdot \frac{2}{36} + 12 \cdot \frac{1}{36}$$

$$E(X) = \frac{252}{36} = 7 \quad E(X) = 7$$

$$b) \text{Var}(X) = (2-7)^2 \frac{1}{36} + (3-7)^2 \frac{2}{36} + (4-7)^2 \frac{3}{36} + (5-7)^2 \frac{4}{36} + (6-7)^2 \frac{5}{36} + (7-7)^2 \frac{6}{36} + (8-7)^2 \frac{5}{36} + (9-7)^2 \frac{4}{36} + (10-7)^2 \frac{3}{36} + (11-7)^2 \frac{2}{36}$$

$$\text{Var}(X) = 25 \cdot \frac{1}{36} + 16 \cdot \frac{2}{36} + 9 \cdot \frac{3}{36} + 4 \cdot \frac{4}{36} + 1 \cdot \frac{5}{36} + 0 \cdot \frac{6}{36} + 1 \cdot \frac{5}{36} + 4 \cdot \frac{4}{36} + 9 \cdot \frac{3}{36} + 16 \cdot \frac{2}{36} + 25 \cdot \frac{1}{36}$$

$$\text{Var}(X) = 25 + 32 + 27 + 16 + 5 + 0 + 5 + 16 + 27 + 32 + 25$$

$$\text{Var}(X) = \frac{210}{36} \approx 6 //$$

$$c) \text{DP} = \sqrt{6} \approx 2 //$$