

(請翻面繼續作答)

1.

$$(1) P(X) = \sum_{x=0}^{10} (x! \cdot 10 \cdot \frac{1}{10})$$

$$x=0 \approx 0.37$$

$$x=0 \approx 0.001$$

$$x=1 \approx 0.3514$$

$$x=1 \approx 0$$

$$x=2 \approx 0.1937$$

$$x=2 \approx 0$$

$$x=3 \approx 0.0514$$

$$x=3 \approx 0$$

$$x=4 \approx 0.012$$

$$x=10 \approx 0$$

$$x=5 \approx 0.0015$$

$$(2) np = 10 \times 0.1 = 1$$

$$(3) \sigma^2 = np(1-p) = \frac{9}{10} \quad \sigma = \sqrt{\frac{9}{10}} = \frac{3}{\sqrt{10}} = \frac{3\sqrt{10}}{10} \approx 0.9487$$

$$2. (b) P(X=W) = P(W/100) = \frac{e^{-10} 10^W}{W!}$$

$$(2) E(W) = 100 \quad \text{std}(W) = \sqrt{100} = 10$$

$$100 + 10 = 110$$

$$B) P(|W - E(W)| \leq 2 \cdot \text{std}(W)) = P(|W - 100| \leq 20) = P(80 \leq W \leq 120) = \sum_{w=80}^{120} P(W=w)$$

(5) 拒絕他, 偏差值过高