7-1
$$E(x) = \int_{0}^{\infty} x \cdot \frac{bx(ax)}{b} dx = \frac{a}{2}$$

$$\therefore \hat{b} = 2\vec{X}$$

$$E(\hat{b}) = E(2\vec{X}) = 2E(\vec{X}) = \frac{a}{4}D(X)$$

$$Var(\hat{b}) = D(2\vec{X}) = 4D(X) = \frac{a}{4}D(X)$$

$$V(x) = E(x') - E(x')^{2}$$

$$\therefore E(x') = \int_{0}^{a} x^{2} \cdot \frac{bx(ax)}{a} dx = \frac{3}{4}a^{2}$$

$$\therefore Var(x) = \frac{b^{2}}{b^{2}}$$

$$\therefore Var(\hat{b}) = \frac{5}{5}n$$

$$1-\frac{3}{4}$$

$$V(x) = \frac{1}{2}(1-\frac{a}{2})$$

$$\therefore E(x) = \vec{X}$$

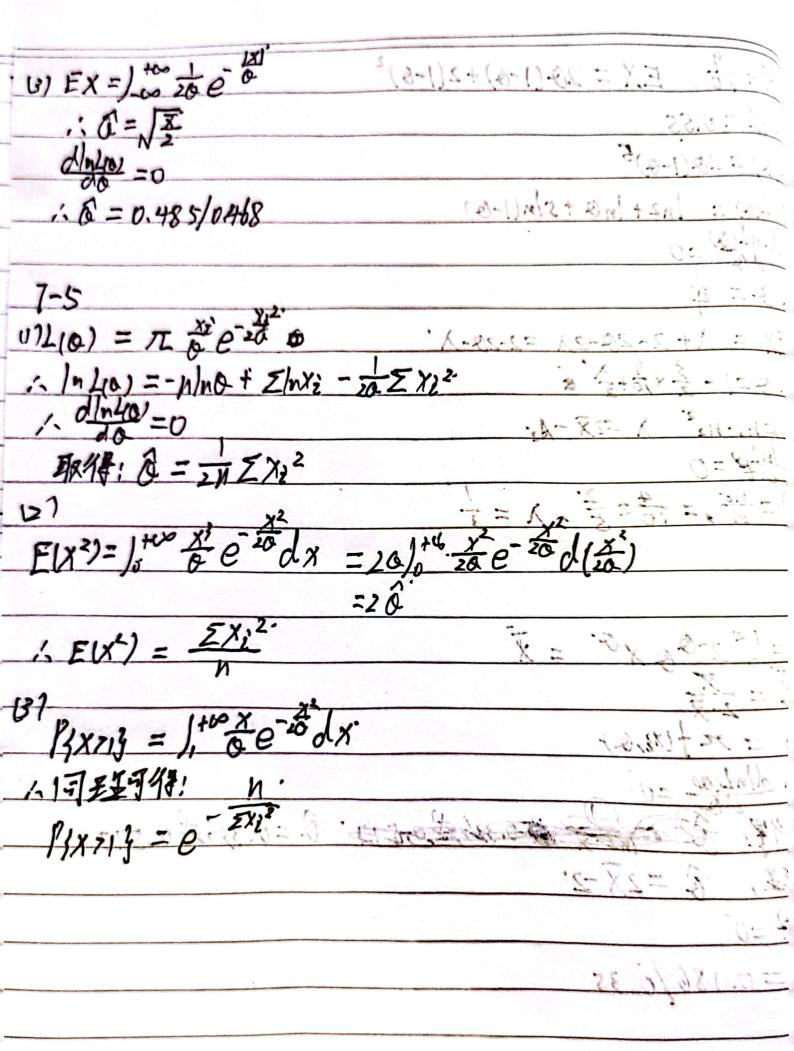
$$\therefore In = \frac{3}{2}(1-\frac{a}{2})$$

$$\therefore In I(a) = 3\ln \frac{1-a}{2}$$

$$\therefore d \ln a = 0$$

$$\therefore \frac{a}{4} = \frac{1}{2}$$

12) X=10, EX = 20(1-6)+2(1-6)2 i & = 0.55 L(0) = 20(1-0)5 Inl(a) = In2+ Ina+ sIn(1-6) =0.186/0.35



1-6 11) E(82) = a Z(x2+1 -xi) = a Z[D(Xi)+D(xi+1)+u-u]. = a-1862 =62 1 Q= 18 12) E(62) = b E [D(X2) + 1)(X2+5) + W-W = b-106=62 E(X1)=E(X2)=E(X3)=U E(û1) = = 1 1 + 4 N+ 4 N= N E(1/2) = 24 24+4 = 11 人名爬无偏估计 D(a)===6°, D(a)=62, D(a)==62 ·Us数有效

