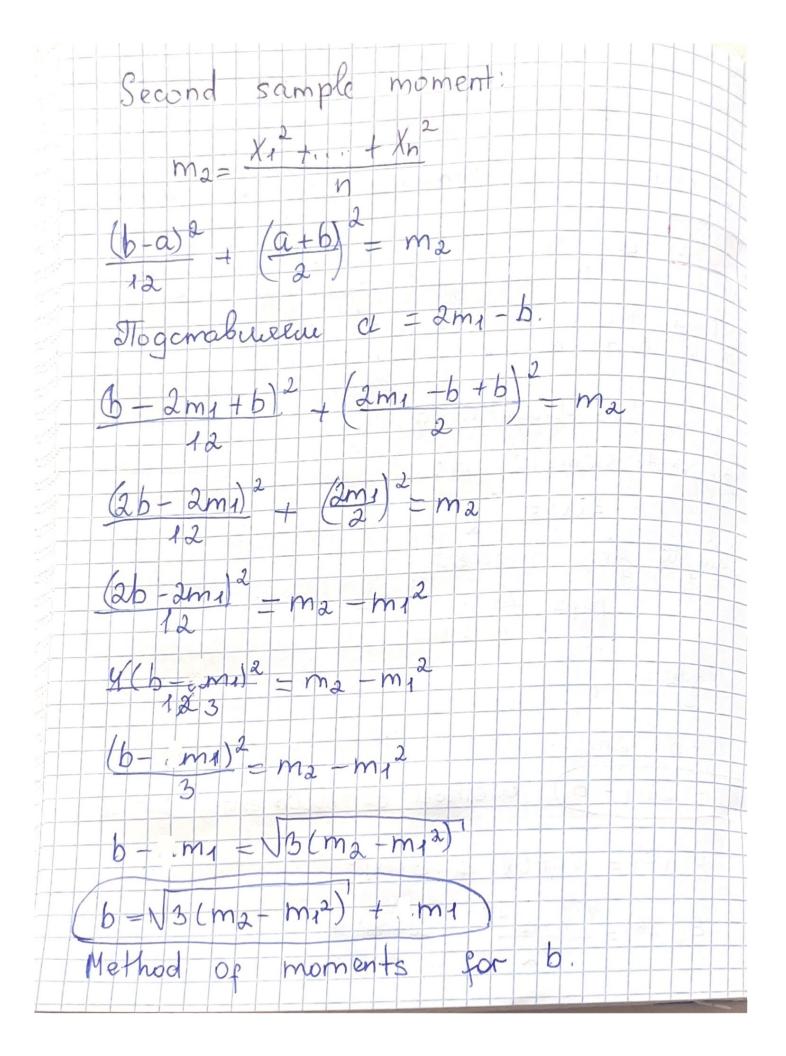
Momework No 4 146-148 9.14 Chapter 2ab, 4,6 Let XI, ... Xn ~ Uniform (a,b) where a e unknown parameters and a <b are unknown (a) Find the method of moments estimators and X1,... Xn = Uniform (a, b) So, first moment is: $E(X) = \frac{a+b}{2}$ Sample first moment: Xxt. c. + Xn m= n ath - ma a+b=2m1 dethod of alloments a = 2m1 E(X2) = Var(X) + E(X)2



Answer! clock for a = 2m, $a = 2m_1 - \sqrt{3}(m_2 + m_1^2) - m_1$ $a = m_1 - \sqrt{3}(m_2 - m_1^2)$ b= 13(m2-m12) + m1 Ex 2b. Let X1, ... Xn ~ Uniform (a1b) where and b are unknown parameters and as b (b) Find the MLE a and pDF of Uniform (a, b) b-a if XE Earb] O, otherwise L(Q), b= f(X1)..., f(Xn) = 1 b-a..., b for ax Xi < b log-like lihood function: L(a,b) = log L(a,b) = n log (b-a) + 1 if $a \le Xi \le b$ i = 1, 2, ..., n $=) -n \log(b-a) + 0, otherwise$

So, max (X1, ... Xn) <= 5 a min (X1, ... max (X1, ... Let XI,... Xn ~ Poisson (2). Find the method of moments estimator, the maximum likelihood estimator and information I(A). estimator (a) Method of moments First moment ECXIEA mample moment M1= broke hood estimator (b) Maximum

