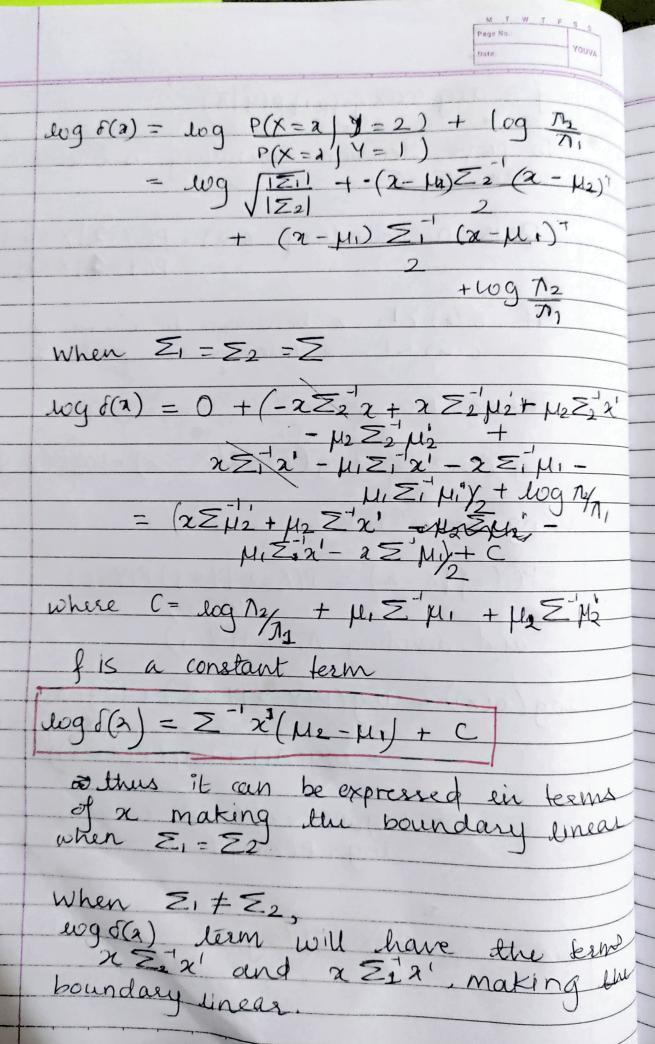
y = arg max g=fo,1}p(ý a)  To prove, decision	M T W T F Page No.: Date:	
To prove, decision		
To prove, decision boundary  Nen \$\int_{1}=\int_{2}\text{ boundary}  Decision boundary  Decision boundary	is linea	<b>&gt;</b>
Decision boundary (m)		974.07 974.07
Decision boundary 5(a) = P(	$\lambda = 3 \times 4$	= a )
If S(a) 71, n belongs to  S(a) <1, a belongs to  Taking log	class	) )
(09 (d(x))= Log ((y-2   x = x	) - log P(	(V-1/x )
Using Bayes' rule		1-1/-3
P(Y=j x-x) = P(X=x Y=j)f	P(Y=1)	
and denoting to = P(Y=j)		
log(8(n)) = log(P(x=2 1-2)+	wq(72	)
$log(\delta(n)) = log(P(x=2 Y=2) + 10g(P(x=2) - 10g(P(x=2) - 10g(P(x=2) - 10g(P(x=2) + $	$\frac{P(X=x)}{(X=x)}$	1=1)
$= \log(P(X=2 Y=2)) + \log(P(X=2 Y=1))$	log (N2)	
$\log \left( P(x=x Y=1) \right)$	-log (1)	)
We know $P(X=x Y=y)=1$ $\sqrt{2n} Y =\frac{1}{\sqrt{2n} Y }$	exp (-12-	12-14) -



When 2, 7 32  $log \delta(a) = 2 \Xi_1 \dot{\lambda} - 2 \Xi_2 \dot{\lambda} + \Xi_2 \dot{\lambda} \mu_2$ - 5/2'M1 + 6 Thus the decision boundary is quadratic By