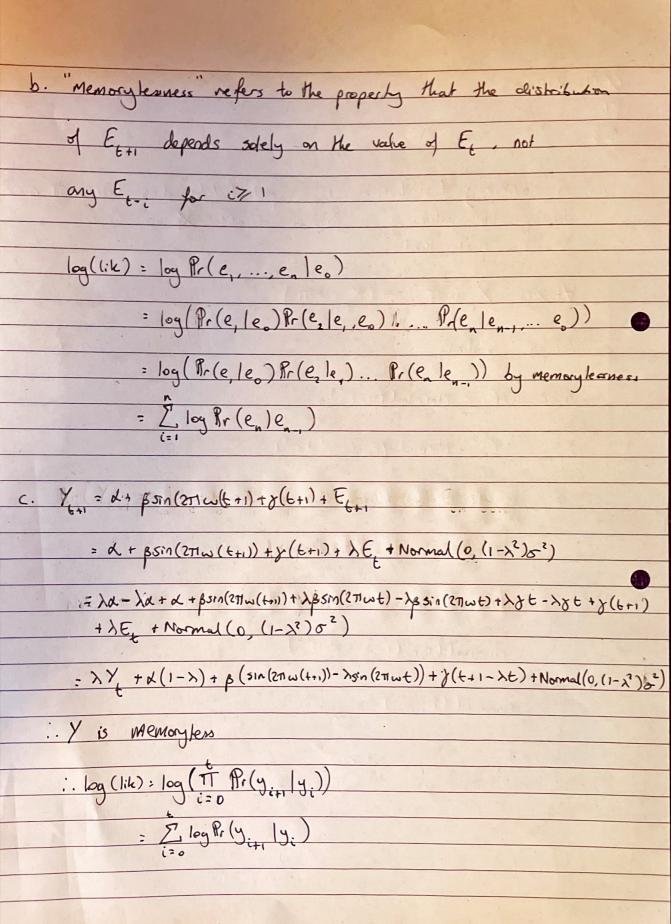
BGN: 2191A
P6
0.8
a. A stationary distribution is a probability distribution To oce
the possible value of a random variable to ma time
series such that
$\forall 670 (X_{t} \circ T) \Rightarrow (X_{t+1} \circ T)$
Let t arbitrary
Surfament State of the Control of th
Assume E w Wormal (0, 53)
E = 1 E + Normal (0, (1-)2) 0-2)
: Ett v & Normal (0, 02) + Normal (0, (1-) 0)
= Normal (0, (xo)2) + Normal (0, (1-x2)02)
= Morniel (nro, (10)2, (1-1,2),2)
= Normal (0, (1- x²+x²)6²)
and the same of th
= Norm al (0, 0²)
and the second s
™ E _t

_



d. A linear model is one in which the estimated vector is a linear combination of known feature vectors, with the parameters of the model being scalar multipliers. from (c): / == λ / + α(1-λ)+β(sin(2πω(++1))-λsin(2πωt))+β(+1-λt)+Normal(0,(1-λ)-) Let 1: Y - > Y At is the variable we will be modelling. Let f = 1-x f = Sin(271w(++1))-Lsin(271wt) f3:t11->t be feature vectors D Δ = xf, +βf2 + yf3