Q5.

equation for V* in terms of 9/4.

 $V_*(S) = \max_{\alpha} Z Z p(S', Y|S, \alpha) \left[\text{ent } YV_*(S') \right]$ $= \max_{\alpha} E[R_{t+1} + YV_*(S_{t+1}) | S_{t} = S, A_t = \alpha]$ $= \max_{\alpha} \left[R_{t+1} + YV_*(S_{t+1}) | S_{t} = S, A_t = \alpha \right]$

= man En+ (Rtt1 + YGtt1 | St=S, At=a]

= max Enx (Gt | St = S, At = a)

= man qn*(s,a) aEA(s)

· o V* (S) = man 911*(S,a).