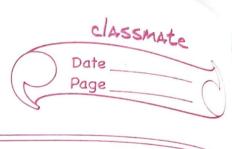
Q1 Cliver: 7 Jr J:X-1 Y To Provide fix and only if  $f(f^{-1}(B)) = B$ for all  $B \subseteq Y$ . Proof: 1 0 26 fis outs prove met f(f'(B)) = Bfix-o y disonto so every elevent of y has a pre I mage in X. Since the for is not bijective there can be Map thea multiple per inages of y in X. 1-1(y) = 8 x Take of both side. dinu it is true for y f(f'(y)) = f(n) = y.it will be true to ABCJ:



If f(f'(B)) = B + BCY then f: isomo.

=> f(B) exists + BCY. Jui Ju A

Considering the domain of fas y.

y & y let image of y order f be 91.

Talu f both sides.

f(f (y)) = y do f(n) = y. , dine we assumed.

y to be in y. Ther f(n) is a onto function.

f(a)=y g(y)=2 h(2)=V 02 ( hog ( flm ) = h ( g ( f ( m) ) (hog)offy= 415:-1 holgos) = h(gof(m)) = h (g(d(m))) RNSH with little this through another Henry Proved . Landon

For f: x-14 y= f/n) to be an 03 equivalence relation it should satisfy followin properties: 1 Symmetric => 2t J(N) = J(N) N, K M 2 4(n2) = f(ni) X, RN, a Reflexive - (m) = 4(m) n, Ruz f(n) = f(n2) 3 Transitive: 7 nzRnz f(n2) = f(r2) M, RM3 f(n) = 1(n) Relation is equivalence relation.

flower set of set A is defined as the subset set of all subsets of set A. Let Set A = \( \alpha\_1, \alpha\_2, \alpha\_3 \) No. of cubsch = 2x2x2 - - (no. of elevants of 1)
= 2n where n = (A) So /P(A) = No. of subsets of set A = 2n