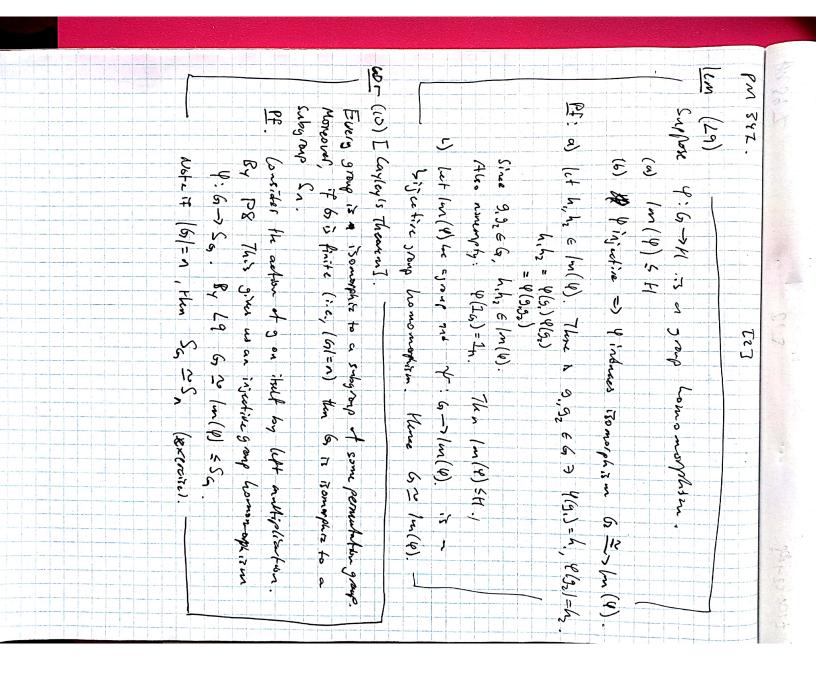
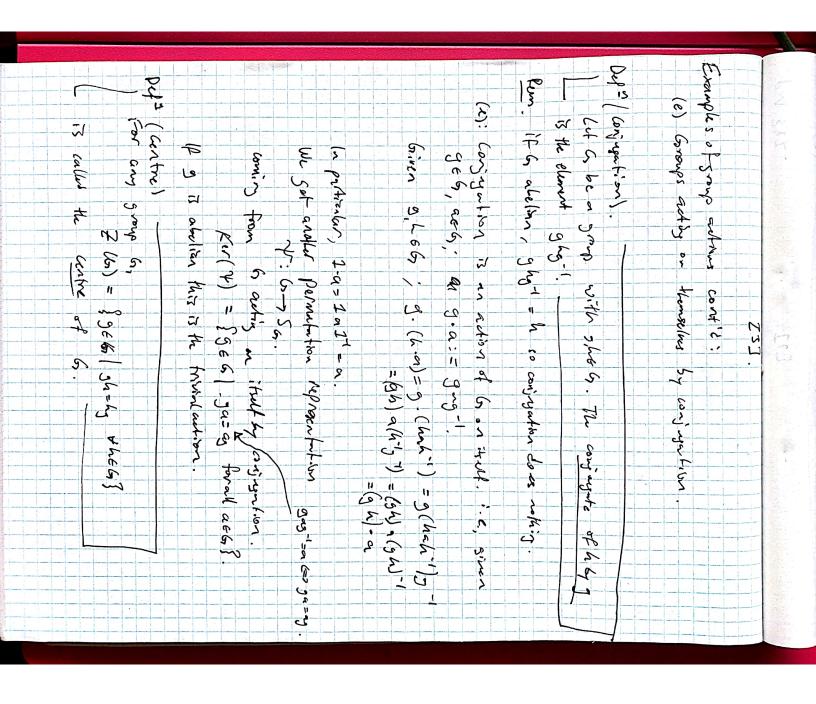
PM 347 500 Sart 20, 7017. Note: . HN 1 Q5; the sour is ( In, (D). o Symmetre 5 range = permutation group. Two important group actions: (d) Groups acting on themselves by left multiplication Let G be a group. Or outs on theef Ly 166, a66, ->9-a-ga. by associativity of your operations. Exercise: Multipliation on the right is not - group action. We have a grow corresponding permutation representation G7 -> 5G. prop2 [P8] G-> Sa is injective. pr: let ghé 6, assume og = on. Inpartionlar, 05 (1) = 0 (1) Since 0 (1) = 9 . 1 = 9 and σh (1) = h.1 = h, or have g = h. In particular, the Kernel of this action is trival. i.e. the subgroup {13 < 6. Def 2 (Faithful) A group action 6, and is called fatheful if the tecret I of the action is trivial. I.e., the only group elevant fixing all of A pointwise to 16 Def 3 (Image) -Suppose 4: 65->41 is a 5 com homes and





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