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HW03

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- 1) a) true e) false i) true m) true  
 b) false f) true j) false n) false  
 c) false g) false k) true  
 d) true h) false l) false

- 2) a)  $AB = \{agh, bcgh, defgh, aij, bcij, defij\}$   
 b)  $CAB = \{Klmagh, Klmbcgh, Klmdfgh, Klmaij, Klmbcij, Klmdfij\}$   
 c)  $A \cup B = \{a, bc, def, gh, ij\}$   
 d)  $AB \cup C = \{agh, bcgh, defgh, aij, bcij, defij, Klm\}$   
 e)  $C^R \cup A = \{mlk, a, bc, def\}$   
 f)  $AC^? = \{a, aKlm, bc, bcKlm, def, defKlm\}$   
 g)  $B^?B^? = \{\text{null}, ghgh, ghij, ijgh, ijij, gh, ij\}$   
 h)  $BB^R = \{ghhg, ijji, ghji, ijhg\}$

- 3) a)  $(\{c\} \cup \{a\}) \{a\}$   
 b)  $(\{a\}(\{a\} \cup \{b\}))(\{a\} \cup \{c\}) \{c\}$   
 c)  $(\{E\} \cup \{in\})(\{fatigable\} \cup \{defatigable\})$   
 d)  $(\{ardo\} \cup \{glamo\} \cup \{labo\} \cup \{neighbo\})(\{r\} \cup \{ur\})$

- 4) c)  $/in)^?(de)^?fatigable/$   
 d)  $/ardo(r|ur), glamo(r|ur), labo(r|ur), neighbo(r|ur)/$