

Worksheet 6

Relations

1. Given set $R = \{(0,0), (0,1), (0,3), (1,0), (1,1), (2,2), (3,0), (3,3)\}$ on the set $A = \{0,1,2,3\}$.
 - (a) Is R reflexive, symmetric, and transitive? Explain your answer.
 - (b) Is R asymmetric? Why?
2. Given $A = \{1, 2, 3, 4\}$, $B = \{1, 4, 6, 8, 9\}$ where element a in A is related to element b in B if and only if $b = a^2$.
 - (a) Draw the directed graph for the relation.
 - (b) Determine whether the relation is equivalent relation?