$X = \{3,5,6,7\}$, $Y = \{3,5,6,7\}$. A relation R from X to Y is defined by $(x, y) \in R$, **if x divides y**

(a) Write R as a set of ordered pair

(b) Draw the digraph.

(c) Give the matrix A for R

(d) Is R symmetric? Why?

(e) Is R reflexive? Why?

(f) Is R antisymmetric? Why?

(g) Find $A^2$and check if R is transitive[1].

(h) Is antisymmetric same as "not symmetric"? Why?

[1] *R* is **transitive** if and only if whenever entry *i, j* in is nonzero, entry *i, j* in *A* is also nonzero.