TRUE/FALSE QUESTIONS

RELATIONS
Chapter #11

(1) An equivalence relation is a subset of $A \times B$.

(2) An equivalence relation is a subset of $A \times A$.

(3) $\{ (a, a) : a \in A \}$ constitutes an equivalence relation on $A$.

(4) Let $a, b \in A$. Whenever $[a] \neq [b]$, then $[a] \cap [b] \neq \emptyset$.

(5) Let $a, b \in A$. Whenever $[a] \neq [b]$, then $[a] \cap [b] = \emptyset$.

(6) Let $a, b \in A$. Whenever $[a] \cap [b] \neq \emptyset$, then $[a] \neq [b]$.

(7) A family of subsets of $A$, $\mathcal{F}$, that partitions $A$ is pairwise disjoint.

(8) A family of subsets of $A$, $\mathcal{F}$, that partitions $A$, covers $A$.

(9) A family of subsets of $A$, $\mathcal{F}$, that covers $A$ will partition $A$.

(10) A family of subsets of $A$, $\mathcal{F}$, that is pairwise disjoint will partition $A$.

(11) Every non-empty set can be well-ordered.

(12) A strict linear order on $A$ is a well ordering of $A$. 