Name:_____

Lecture 21, class activity. Equiv relations.

For each of the following, you are given a set A and a relation $\mathcal{R}$ on A.

In each case, determine whether the relation is reflexive, whether it is symmetric, and whether it is transitive.

A. $A = \mathbb{R}$, $x\mathcal{R}y \iff x \leq y$.

B. $A = \mathbb{Z}$, $x\mathcal{R}y \iff \min(x, y) < 5$

C. $A = \mathbb{R}^2$, $(a, b)\mathcal{R}(c, d) \iff ((a = c)OR(b = d))$

D. $A = \mathbb{R}$, and $f\colon \mathbb{R} \to \mathbb{R}$ is some function. We say $x\mathcal{R}y \iff f(x) = f(y)$.