SAMPLE RELATIONS QUESTIONS

(1) For **each** of the following Relations:
- State whether or not it is an equivalence relation.
- $\begin{cases} \text{If it is an equivalence relation, give the equivalence classes.} \\ \text{If it isn't, state why not.} \end{cases}$

    (a) S={ 2, 3, 4, 5} R={ (2,3), (3,2), (4,5), (5,4)}

    (b) $S = \mathbb{Z}$. $R = \mathbb{Z} \times \mathbb{Z}$.

(2) For **each** of the following Relations:
- Let The domain and codomain be $\{-3,-2,-1,0,1,2,3\}$
- State whether or not it is a function.
- $\begin{cases} \text{If it is a function, state whether it is even, odd} \\ \text{If it isn't, state why not.} \end{cases}$

    (a) (6 pts.) f={(-3,1),(-2,2),(-1,3),(0,0),(3,1),(2,2),(1,3)}

    (b) (6 pts.) f(x)=$\sqrt{\ }$ x.(squareroot)