Q1 In the following statements we consider subsets S={(x,S(x)) : x in R} of RxR, where R denotes the set of real numbers. In each statement we define S(x) for all x in R. Select all statements that are true.

5 Points

- [ ] S(x)=x^2 defines a surjective function S:R-->R.

- [ ] S(x)=sqrt(x) defines an injective function S:R-->R. Here sqrt(x) denotes the square root of x.

- [x] **S(x)=x^3 defines a bijective function S:R-->R.**

- [ ] S(x)=0 defines a function S:R-->R which is neither injective nor surjective.

- [ ] S(x)={x,-x} does not define a function S:R-->R but it defines a relation on R.