Clearly, rad R is the ideal generated by the x_i's. We have $(\text{rad } R)^2 = 0$, and $R/\text{rad } R \sim Q$, so R is semiprimary. The strictly ascending chain $(x_1) \subseteq (x_1, x_2) \subseteq (x_1, x_2, x_3) \subseteq \cdots$ shows that R is not noetherian, while the strictly descending chain $(x_1, x_2, \ldots) \subseteq (x_2, x_3, \ldots) \subseteq (x_3, x_4, \ldots) \subseteq \ldots$ shows that R is not artinian.