Quiz 8 — MGF 3301 Intro. to Adv. Math

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This is a 30 minute quiz. Discuss the problems in your group, and then write down your own answer.

1. Find a relation R on a set S so that (S, R) is not transitive, but it is symmetric.

2. Give an example of a well-ordered subset $S \subset \mathcal{P}(\mathbb{R})$ with respect to the ordering defined by inclusion.

3. Prove using induction that

$$\sum_{i=1}^{n} i = \frac{n(n+1)}{2}.$$