Name: _____ No. _____

MATH 206 Quiz 2: 9/13/23

You may use a calculator. You have 10 minutes to complete the quiz. There are 10 points possible.

1 (5 pts) Suppose $R = \{(5,5),(5,4),(5,3),(4,4),(3,4),(3,3)\}$ and $S = \{3,4,5\}$.

(a) Determine which of the reflexive, symmetric, antisymmetric, and transitive properties are satisfied by relation R on set S and justify your conclusions.

(b) Is relation R on set S an equivalence relation, a partial order, both, or neither? Explain.

2 (5 pts) Let S be the set of nonempty subsets of $\{1,2,3\}$. Define a relation R on S by $A \; R \; B$ if $A \subseteq B$.

(a) Does this relation satisfy the reflexive, symmetric, antisymmetric, and transitive properties?

(b) Is relation R on set S an equivalence relation, a partial order, both, or neither? Explain.