B206 — Transitions to Higher Maths
Chapter 11

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Section 11.3

8. Define a relation R on $\mathbb{Z}$ as $x \ R \ y$ if and only if $x^2 + y^2$ is even. Prove R is an equivalence relation. Describe its equivalence classes.

Section 11.4

4. Suppose P is a partition of a set A. Define a relation R on A by declaring $x \ R \ y$ if and only if $x, y \in X$ for some $X \in P$. Prove R is an equivalence relation on A. Then prove that P is the set of equivalence classes of R.