1. Each of the following is not an equivalence relation because it fails for exactly one criterion. Determine which one and provide evidence. You do not need to prove that the other criteria are satisfied.

   (a) The relation R on $\mathbb{Z}$ defined by aRb iff $a|b$.

   (b) The relation R on $\mathbb{Z}$ defined by aRb iff both are even.

   (c) The relation R on $\{2, 3, 4, 5, ...\}$ defined by aRb iff a and b share a common factor greater than 1.

2. Define a relation R on $\mathbb{Z}$ by $R = \{(x, y) \mid 4|(3x - 7y)\}$. Show that R is an equivalence relation and list the equivalence classes of R.