Quiz 8

1. (5 points) You are given R is an equivalence relation:

$$R = \{(1,1), (3,3), (2,2), (2,4), (2,5), (2,6), (4,2), (4,4), (4,5), (4,6),$$

$$(5,2), (5,4), (5,5), (5,6), (6,2), (6,4), (6,5), (6,6)\}.$$

Answer the following questions below.

   (a) We know $R \subseteq A \times A$. What is A?

   (b) Write the equivalence classes for this equivalence relation.

   (c) What is the partition the equivalence classes form?

2. (3 points) Determine the number of odd three-digit positive integers that have no repeated digits.

3. (2 points) Let $A = \{w, x, y, z\}$ and $B = \{r, s, t\}$. Give an example of a function $f : A \to B$ that is neither injective nor surjective. Explain why f fails to have these properties.