Transition to Advanced Mathematics: assignments 10

Let $A = \mathbb{R}[x] = \{a_0 + a_1x + a_2x^2 + \cdots + a_nx^n | a_i \in \mathbb{R}\}$

That is, A, is the set of all polynomials with coefficients coming from $\mathbb{R}$ and variable x.

1. Give 5 examples of elements of A.
2. Partition A by the degree of the element: write down the actual partition.

   (It should be a collection of sets!)
3. Construct a relation R from the partition.

   (It should be a set of ordered pairs!)
4. Prove that R is an equivalence relation.

These problems are due on April 8th