1.

By the previous homework, we all know if all edge costs are positive and distinct then MST T is unique. Now Suppose T is MST with normal cost, T’ is MST with square cost. Since all edges cost are distinct, so all edge cost of new graph are also distinct.

Assume there is an edge e in T’ but not in T. If add that edge to T, that will form a cycle, absolutely there is a shortest path in that cycle to form a MST, that path is different between T and T’.

This is contradiction Because we all know any shortest path is the same in T, T’ from the previous hw.

So, T and T’ must be the same.

2.