

## Insertion Sort – Random Initialization

- The 11 data points indicate an  $O(n^2)$  relationship between list length and sorting time. The quadratic trendline fits the data with an  $R^2$  value of .9999.
- Prediction for the time required for Insertion Sort to sort a randomly initialized list of length 10,000,000:  $y(10000000) = 50006.9457$  seconds or 13.89 hours

