In an attempt to determine whether or not special training increases the speed with which assembly line workers can do an assembly job at AMTEL Inc., 25 workers are timed performing the task. Then, they are given a special training course designed to increases their assembly efficiency. At the end of the course, they are timed doing the same task. The differences between the first and the second time are recorded for each of the 25 assembly line workers. The mean *improvement* for the 25 workers was found to be 2.5 minutes and the sample standard deviation was 4 minutes.

Let variable represents the improvement in time for each assembly line worker. Let represents the average improvement in time for the population. Has the training improved the time required on the job? Please test the hypothesis use as the level of significance