

## MATH 5090 – Quiz 7

Name:

- 1- A large University facility has 50 new bulbs. The following observations represent the observed lifetimes,  $X$  (in days) of 40 of them. The technician stopped recording the data after observing the following 40 lifetimes.

1, 6, 1, 4, 7, 8, 4, 6, 5, 2, 1, 6, 5, 3, 1, 8, 7, 8, 1, 2, 6, 1, 6, 4, 9, 2, 6, 9, 6, 9, 5, 2, 3, 6, 6, 9, 2, 8, 7, 3

Use the CM test statistic to test  $H_0 : X \sim \text{Exp}(\theta)$  at a significance level of your choice.

- 2- Test  $H_0 : m_x = 7$  vs.  $H_0 : m_x < 7$  at  $\alpha = 0.1$  for the data set above. Use a sign test and assume  $n = 40$ .