## **EXAMPLE ANSWER**

## Question 1: You perform experiments to determine tumor size in wild type and knockout of a gene of interest in a mouse model of colorectal cancer. Visualize the data and test the hypothesis that the knockout affects tumor size

By plotting the sample data collected on tumor size for each mouse it is difficult to tell what distribution the values may follow (Fig 1,2). Therefore, I performed a two-sided Wilcox ranksum test to compare the average value between groups. The results of this test revealed a significant difference (p=.0079) in the tumor size in gene knockout and wild type mice. The knockout mice had a 2.6-fold increase in tumor size compared to the wild type mice (Fig 3). Based on these data and hypothesis test, I would conclude that knockout of this gene affects tumor size.

