1. State the Intermediate Value Theorem (complete with hypothesis and conclusion).

2. On the first day of high school a student weighed 155lbs and on the last day of college the student weighed 135lbs. What does the Intermediate Value Theorem say about the student’s weight in that time period? Did the person ever weigh $\sqrt{2} \times 100$ pounds? Why or why not? Did the person ever weigh 170lbs? Why or why not?

3. Suppose $\int_{0}^{10} f(x)dx = 5$. Determine the following.

   (a) If $f(x)$ is an even function, then what is $\int_{-10}^{10} f(x)dx$?

   (b) If $f(x)$ is an odd function, then what is $\int_{-10}^{10} f(x)dx$?

   (c) If $f(x)$ is a constant function, then what is $\int_{0}^{\pi} f(x)dx$?