# Week 6 Problems—30 points

10 points each. Place answers in the following table:

|  |
| --- |
| 1. |
| 2. |
| 3. |

1. A company is evaluating the impact of a wellness program offered on-site as a means of reducing employee sick days. A total of 8 employees agree to participate in the evaluation which lasts 12 weeks. Their sick days in the 12 months prior to the start of the wellness program and again over the 12 months after the completion of the program are recorded and are shown below. Is there a significant reduction in the number of sick days taken after completing the wellness program? **Use the Sign Test at a 5% level of significance.**

Complete the table below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Employee | Sick Days Taken in 12 Months Prior to Program | Sick Days Taken in 12 Months Following program | Difference (**Reduction** = **Prior-After** ) | Sign |
| 1 | 8 | 7 | ( ) | ( ) |
| 2 | 6 | 6 | ( ) | ( ) |
| 3 | 4 | 5 | ( ) | ( ) |
| 4 | 12 | 11 | ( ) | ( ) |
| 5 | 10 | 7 | ( ) | ( ) |
| 6 | 8 | 4 | ( ) | ( ) |
| 7 | 6 | 3 | ( ) | ( ) |
| 8 | 2 | 1 | ( ) | ( ) |

 Alpha= \_\_\_\_\_\_\_\_

 n= \_\_\_\_\_\_\_\_

 Critical value= \_\_\_\_\_\_\_\_

Smaller of the number of positive or negative signs= \_\_\_\_\_\_\_\_

Based on comparing the smaller of the number of positive or negative signs to the Critical value which of the following is (are) true?

1. There is statistically significant evidence at alpha=0.05 to show that the median difference (reduction) is positive.
2. There is not statistically significant evidence at alpha=0.05 to show that the median difference (reduction) is positive.
3. There are not enough data points to reach a conclusion.
4. The tied value makes the analysis suspect.