Name _____   **Date** _____

Advanced Algebra II – Assignment 4-2

Use the matrices A, B and C for Problems 1-8

$$A = \begin{bmatrix} -1 & 3 \\ 5 & -4 \end{bmatrix} \qquad B = \begin{bmatrix} 3 & 1 \\ 1 & 3 \end{bmatrix} \qquad C = \begin{bmatrix} 1 & -1 \\ -1 & 1 \end{bmatrix}$$

1.   A + B   2.   B + A   3.   A – C

4.   C – A   5.   3A + 2B   6.   -3(A – C)

7.   Is addition of matrices commutative? In other words, does the order of the matrices matter when you add them?

8.   Is scalar multiplication commutative? In other words, does it matter if you multiply scalar times matrix or matrix times scalar?

Use the following data for Problems 9 - 12

Low and High Temperatures in January in Degrees Fahrenheit

Town	Average Low	Average High
Berlin	15	28
Concord	21	31
Hanover	19	29
Laconia	21	30
Plymouth	17	28
Tamworth	16	28

Low and High Temperatures in July in Degrees Fahrenheit

Town	Average Low	Average High
Berlin	66	79
Concord	70	82
Hanover	68	82
Laconia	71	81
Plymouth	67	80
Tamworth	66	80

A = Matrix of Low and High Temperatures for January.
B = Matrix of Low and High Temperatures for July.

9. Express the increases in July lows and highs from January lows and highs as a matrix operation. Then show the resulting matrix.

10. Kyle hypothesized that "the average low and high temperatures in April could be approximated by averaging the respective entries in the two matrices above." Express Kyle's method as a matrix operation. Then show the resulting matrix.