M341 (56140), Homework #3

Due: 11:00am, Thursday, Sep. 20

Instructions: Questions are from the book "Elementary Linear Algebra, 4th ed." by Andrilli & Hecker. Please show all your work, not only your final answer, to receive credit. Keep answers organized in the same order the problems have been assigned.

Fundamental operations with matrices (1.4)

p. 56-58, #2(A,G,K,Q), 6, 13, 14(b,c)

Matrix multiplication (1.5)

p. 68-74, #1(a,b,n,o), 2(a,b), 9(a,b), 18, 22, 26

In addition:

A) Suppose $\boldsymbol{v}_1 = [1, 4, 9, 1]^T$, $\boldsymbol{v}_2 = [-2, 3, 0, 6]^T$, and $\boldsymbol{v}_3 = [3, -5, 6, 5]^T$. Rewrite the linear combination $7\boldsymbol{v}_1 + 2\boldsymbol{v}_2 - \boldsymbol{v}_3$ as the product of a matrix with a column vector (you do not need to evaluate the sum!).