1 Compute the following vectors or matrices whenever they are defined.

3 point question. Let $u = (1, 2), v = (0, 1), w = (1, -3), x = (1, 2, 0), z = (0, 1, 1)$. Also let:

$$A = \begin{pmatrix} 2 & 3 & 1 \\ 0 & -1 & 2 \end{pmatrix} \quad B = \begin{pmatrix} 0 & 1 & -1 \\ 4 & -1 & 2 \end{pmatrix} \quad C = \begin{pmatrix} 1 & 2 \\ 3 & -1 \end{pmatrix}$$

a) $u + v$
b) $-4w$
c) $u + z$
d) $3x - 2z$
e) $u \cdot v$
f) $x \times z$
g) $z \times x$
h) $w \cdot x$
i) $u \otimes w$
j) $z \otimes x$
k) $A + B$
l) $A + C$

2 Please answer Questions #1 & 2 from Monogan, page 31.

1 point question. These are from “Section 2.6: Practice Problems.” Show your input R code for all parts. Show your output for 1.a, 1.b, and 2.