Exercise 1. Find the vector product of the vectors:. $\underline{u} = 4\underline{k} - \underline{i} - 2\underline{j}$, $\underline{v} = 2\underline{i} + 5\underline{j} - \underline{k}$

Exercise 2. Find the area of a parallelogram defined by the vectors [3, 2, 6], [-2, 4, 1].

Exercise 3. Find the area of the image of the parallelogram *R* ([2, -5, 3], [0, 4, -3]) under the linear transformation defined by the matrix:

$$A = \begin{bmatrix} 1 & 3 & -1 \\ 3 & 1 & 2 \\ 4 & 0 & 1 \end{bmatrix}$$

Exercise 4. Find the area of a triangle defined by vertices: *A* = (3, -1, 0), B = (-3, -2, 4), C = (1, 3, -2).