**DSCI 35600 – HW 10 (8 pts)**  Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Problem 1.** Assume that PCA was performed on a dataset containing 4 features: x1, x2, x3, and x4. The resulting four principal components are:

* pc1 = [ 0.478, -0.400, 0.180, 0.761]
* pc2 = [-0.731, -0.463, -0.395, 0.309]
* pc3 = [-0.480, 0.423, 0.678, 0.363]
* pc4 = [ 0.083, 0.669, -0.594, 0.440]

The mean of each of the four original features is given by the array [3.58, 5.53, 7.98, 2.29]

An observation is transformed to new coordinates using the PCA decomposition. The transformed coordinates are given below. Convert this observation back into its original x1, x2, x3, and x4 coordinates.

**Round your final answers to 2 decimal places. Box your final answer.**

* [3.63, -1.03, -0.31, -0.81]