1. **[6 points]** Write the following augmented matrix in **reduced** echelon form:

$$
\begin{bmatrix}
1 & 1 & -4 & -1 & 6 \\
-3 & -1 & 16 & 5 & -2 \\
1 & 0 & -6 & 0 & 4
\end{bmatrix}
$$

2. **[2 points]** Write one (just one!) solution to this system of linear equations:

$$
\begin{aligned}
x_1 + x_2 - 4x_3 - x_4 &= 6 \\
-3x_1 - x_2 + 16x_3 + 5x_4 &= -2 \\
x_1 - 6x_3 &= 4
\end{aligned}
$$

3. **[2 points]** Write a matrix with three columns and four rows which is in echelon form, but *not* reduced echelon form.