College Algebra with Review
Chapter 4 Test Review

1. Solve the following system of equations:

$$\begin{aligned} 5w-3x+2y-z&=4\\ w+4x-3y-5z&=-2\\ 4w-x-y-z&=12\\ 7w+3x-2y+z&=-8 \end{aligned}$$

2. Solve the following system of equations:

$$\begin{aligned} 5a-2b+3c-d+e&=2\\ 9a+3b-c-d+5e&=3\\ a-b-c+10d-2e&=-4\\ 7a+2b-c-d+4e&=-8\\ 3a+2b-c-d+5e&=-2 \end{aligned}$$

3. Solve the following system of equations:

$$\begin{aligned} 2x+3y-z&=4\\ 5x-4y-2z&=1\\ 4x+6y-2z&=8 \end{aligned}$$

Given the following three matrices:

$$A=\begin{bmatrix} 3 & -2 & 1\\ 4 & -5 & 7\\ 2 & -3 & 4 \end{bmatrix}, B=\begin{bmatrix} 8 & 2 & -1\\ 3 & -4 & 7\\ -6 & 2 & 1 \end{bmatrix}, C=\begin{bmatrix} 10 & -1 & 2\\ 3 & -5 & -9\\ 1 & 4 & 2 \end{bmatrix}$$

4. Find:

   $a)\ A+B$
   $b)\ A-B$
   $c)\ -7A$
   $d)\ 10A-2B$

5. Find:

   a) $|\mathrm{B}|$
   $b)\ \mathrm{C}^{-1}$

6. Perform the following row operations:

a) $3R_1 + R_2$ on A

b) $-2R_2 + R_3$ on C

7. Find the determinant (by hand) of: $\begin{vmatrix} 5 & -1 & 3 \\ -2 & 1 & 7 \\ 2 & -6 & 2 \end{vmatrix}$ (Not just the setup but the entire problem using the cofactor method)