Worksheet

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Problem quickname: 3339

1)

Solve the linear equation system. Use the Gaussian Elimination algorithm.

a)
$$\begin{array}{rcrcrcrcr}
-4x_1 & + & 8x_2 & + & -9x_3 & + & -6x_4 & = & -28 \\
4x_1 & + & -14x_2 & + & 19x_3 & + & 4x_4 & = & 66 \\
24x_1 & + & 6x_2 & + & -31x_3 & + & 50x_4 & = & -164 \\
8x_1 & + & 26x_2 & + & -32x_3 & + & 20x_4 & = & -220
\end{array}$$

b)
$$\begin{array}{rcrcrcrcr}
-7x_1 & + & -8x_2 & + & -8x_3 & + & -x_4 & = & 46 \\
-63x_1 & + & -64x_2 & + & -78x_3 & + & -15x_4 & = & 452 \\
-35x_1 & + & -96x_2 & & & + & 34x_4 & = & -51 \\
-7x_1 & + & -64x_2 & + & 44x_3 & + & 58x_4 & = & -127
\end{array}$$

2)

Solve the linear equation system. Use the Gaussian Elimination algorithm.

a)
$$\begin{array}{rcrcrcr}
-8a & + & 2b & + & 10c & = & 60 \\
56a & + & -17b & + & -72c & = & -410 \\
& & & & 10c & = & 40
\end{array}$$

b)
$$\begin{array}{rcrcrcr}
-3a & + & 3b & + & -6c & = & -51 \\
-24a & + & 31b & + & -51c & = & -462 \\
& & -63b & + & 19c & = & 454
\end{array}$$

3)

Solve the linear equation system. Use the Gaussian Elimination algorithm.

a)
$$\begin{array}{rcrcr}
4y & + & -7z & = & 8 \\
24y & + & -35z & = & 76
\end{array}$$

b)
$$\begin{array}{rcrcr}
4y & + & 4z & = & -16 \\
-8y & + & -12z & = & 52
\end{array}$$

4)

Solve the linear equation system.

a)
$$\begin{array}{rcrcr}
-7y & + & -6z & = & 58 \\
-7y & + & -12z & = & 88
\end{array}$$

b)
$$\begin{array}{rcrcr}
-5y & + & 8z & = & 61 \\
15y & + & -14z & = & -163
\end{array}$$

Good Luck!