Precalculus Name

C.7 Review 3-4

DIRECTIONS: SHOW ALL WORK AND SET UPS FOR FULL CREDIT!

**Use Gaussian elimination to solve the system of equations.**

1) Show all work.

$x + y + z = -6$

$x - y + 3z = -10$

$3x + y + z = -2$

**Solve the system of equations by finding the reduced row echelon form for the augmented matrix.**

2) Use Calculator show augmented matrix.

$x + y + z = -10$

$x - y + 3z = -8$

$5x + y + z = -14$

**Write the terms for the partial fraction decomposition of the rational function. Do not solve for the constants.**

3) $\dfrac{x + 2}{x(x^2 + 5x - 6)}$

**Find a row echelon form or a reduced row echelon form, as indicated, for the given matrix.**

4) Find a row echelon form for the matrix. No calculator

$$\begin{bmatrix} 1 & -4 & 1 & 2 \\ -1 & 6 & -8 & -6 \\ -2 & 12 & -14 & 4 \end{bmatrix}$$

**Find the partial fraction decomposition.**

5) $\frac{3x - 1}{x(x + 1)} = \frac{A}{x} + \frac{B}{x + 1}$

6) $\frac{5x - 2}{x^3 - 4x} = \frac{A}{x} + \frac{B}{x + 2} + \frac{C}{x - 2}$

**Answer the question.**

7) Find a, b, and c so that the graph of the equation $y = ax^2 + bx + c$ passes through the points (5, 97), (3, 41), and (2, 22).

1) (2, -3, -5)
2) (-1, -5, -4)
3) $\frac{A_1}{x} + \frac{A_2}{x + 6} + \frac{A_3}{x - 1}$
4) Answers may vary. Possible answer:

$$\begin{bmatrix} 1 & -4 & 1 & 2 \\ 0 & 1 & -3.5 & -2 \\ 0 & 0 & 1 & 8 \end{bmatrix}$$

5) A = -1, B = 4
6) A = $\frac{1}{2}$, B = $-\frac{3}{2}$, C = 1
7) $y = 3x^2 + 4x + 2$