

Pre-Cal CW 7.1-7.3 Systems and Partial Fraction Decomposition

#'s 1-6, solve each system using any method. If it has no solution or infinite solutions, say so. Box final answers.

1. $\begin{aligned} 3x - 8y &= -13 \\ y + 7 &= -6x \end{aligned}$	2. $\begin{aligned} 8x + 2y &= 3 \\ y &= -4x + 2 \end{aligned}$
3. $\begin{aligned} 5x - 8y &= -14 \\ 2x + 4y &= 1 \end{aligned}$	4. $\begin{aligned} 4x + 7y &= -14 \\ 5x + 3y &= -5 \end{aligned}$
5. $\begin{aligned} -x - y - 3z &= -9 \\ z &= -3x - 1 \\ x - 5y + z &= 23 \end{aligned}$	6. $\begin{aligned} 6r - s + 3t &= -9 \\ 5r + 5s - 5t &= 20 \\ 3r - s + 4t &= -5 \end{aligned}$
7. Write the following system in row-echelon form and use back substitution to solve. $\begin{aligned} 2x - 5y + 5z &= 17 \\ x - 2y + 3z &= 9 \\ -x + 3y + z &= -2 \end{aligned}$	

Write the partial fraction decomposition of each:

8. $\frac{x+14}{x^2+7x+10}$	9. $\frac{x+4}{x^3+x^2}$
10. $\frac{5x^2-9x+19}{x^3-4x^2+5x-20}$	11. $\frac{2x^3+9x^2+11x+2}{x^2+4x+3}$