Wilf Csaplar Jr.   Business 205   Homework #7   **Due Monday 4/15**

Place your name on the back of this sheet of paper and nowhere else. Staple your answers face up on the front of this sheet of paper. Failure to follow these directions will cost you 1 point. If you use double-sided printing or print on the back of scrap paper, I will give you one additional point.

Show all work on all questions.

1) (15 points each) For each of the following sets of equations, set it up in the $A\mathbf{x}=\mathbf{b}$ form. Then find A^{-1} and use that to solve the equations.
A) $P - 2Q = 10$, $P + 3Q = 35$
B) $3X + Y = 9$, $X - Y = -1$

2) (20 points) Find $|A|$ for A= $\begin{bmatrix} 1 & 2 & 3 \\ 0 & 4 & -1 \\ -2 & -3 & 5 \end{bmatrix}$.   . Use that to find A^{-1}.

3) (25 points) For the following sets of equations, set it up in the $A\mathbf{x}=\mathbf{b}$ form. Then find A^{-1} and use that to solve the equations.
$X - Y + Z = 6$, $2X + Z = 11$, $Y + 3Z = 17$.

4) (25 points) For the following sets of equations, set it up in the $A\mathbf{x}=\mathbf{b}$ form. Then find A^{-1} and use that to solve the equations. Hint: It may be easier to find the determinant of A by expanding over something other than the first row.
$12X - 5Y + 7Z = 35$, $2X + Z = 5$, $Y + 3Z = 10$.