Advanced Algebra II
Chapter #3: Pre-Exam

Name _____

Determine whether each of the following systems is independent, dependent, or inconsistent.

1) $\begin{aligned} 6x-2y&=2 \\ 2+6x&=y \end{aligned}$ 1) _____

2) $\begin{aligned} 5-y&=2x \\ 6x-15&=-3y \end{aligned}$ 2) _____

3) $\begin{aligned} 6y+2x&=8 \\ 12y+4x&=4 \end{aligned}$ 3) _____

4) $\begin{aligned} 1.5+3x&=.5y \\ 6-2y&=-12x \end{aligned}$ 4) _____

5) $\begin{aligned} 2-.25x&=.5y \\ 1.5y&=1.5x-3 \end{aligned}$ 5) _____

Solve the following system by using substitution.

6) $\begin{aligned} x-2y&=3 \\ 3x+y&=-5 \end{aligned}$

Solve the following system using combination.

7) $\begin{aligned} 11-5y&=2x \\ 5y+3&=-9x \end{aligned}$

Solve the following system of inequalities by graphing.

8) $\begin{aligned} y&\le|x+2|-3 \\ x-4y&\le-4 \end{aligned}$

Solve the following linear programming problem.

9) A lunch stand makes $.75 profit on each chef's salad and $1.20 profit on each Caesar salad. On a typical weekday, it sells between 40 and 60 chef's salads and between 35 and 50 Caesar's salads. The total number sold has never exceeded 100 salads. How many of each type should be prepared in order to maximize profit?

Solve the following system of three linear equations.

10) $\begin{aligned} x+y-2z&=8 \\ 5x-3y+z&=-6 \\ -2x-y+4z&=-13 \end{aligned}$