PAP Algebra 2 Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
HW: System Applications

**For #1-2, solve each system of two equations in two variables by hand using substitution.**

**1.**  **2.** $y=x^{2}-7$ **and** $ 2x+y=8$

**For #3-6, solve each system by matrices.**

3. $\left\{\begin{array}{c}2x-3y=7\\y+z=-5\\x+2y+4z=-17\end{array}\right.$ 4. $\left\{\begin{array}{c}5x+y+3z=9\\-x-2y-z=-16\\2x+4y+2z=-30\end{array}\right.$

5. $\left\{\begin{array}{c}x-4y+3z=-7\\2x+3y-5z=19\\4x+y-z=17\end{array}\right.$ 6. $\left\{\begin{array}{c}2x-3z=4\\2x+y-5z=-1\\3y-4z=2\end{array}\right.$

Turn over for more ☺

**For #7, formulate a system of equations for each word problem and solve using matrices.**

7. Your school’s Key Club decided to sell fruit baskets to raise money for a local charity. The club sold a total of 80 fruit baskets. There were three different types of fruit baskets. Small fruit baskets sold for $15.75 each, medium fruit baskets sold for $25 each, and large fruit baskets sold for $32.50 each. The Key Club took in a total of $2086.25, and they sold twice as many large baskets as small baskets. How many of each type of basket were sold?

**For #8, formulate a system of equations for each word problem and solve by hand.**

8.