Name _____ Period _____

Alg 2 Trig 3.7 Homework

Evaluate using graphing calculator:

1. $\begin{vmatrix} 8 & 5 \\ 5 & 7 \end{vmatrix}$	2. $\begin{vmatrix} 16 & -10 \\ -8 & 5 \end{vmatrix}$
3. $\begin{vmatrix} 3 & -2 & 2 \\ -4 & 2 & -5 \\ -3 & 1 & 4 \end{vmatrix}$	4. $\begin{vmatrix} -4 & 1 & -2 \\ 10 & 12 & 9 \\ -6 & 0 & 13 \end{vmatrix}$

Evaluate by diagonals:

5. $\begin{vmatrix} -4 & 1 & -2 \\ 10 & 12 & 9 \\ -6 & 0 & 13 \end{vmatrix}$

6. Rob wants to build a triangular flower garden. To plan out his garden he uses a coordinate grid where each of the squares represents one square foot. The coordinates for the vertices of his garden are (-1, 7), (2, 6) and (4, -3). Find the area of the garden.

Use Cramer's Rule to solve the following systems of equations:

7. $4x-5y=39$
$3x+8y=-6$

$$x=\frac{\begin{vmatrix}\quad&\quad\\\quad&\quad\end{vmatrix}}{\begin{vmatrix}\quad&\quad\\\quad&\quad\end{vmatrix}}= \qquad y=\frac{\begin{vmatrix}\quad&\quad\\\quad&\quad\end{vmatrix}}{\begin{vmatrix}\quad&\quad\\\quad&\quad\end{vmatrix}}=$$

8. $10x-7y=-59$
$6x+5y=-63$

9. $4x-2y+7z=26$
$5x+3y-5z=-50$
$-7x-8y-3z=49$

$$x=\frac{\begin{vmatrix}\quad&\quad&\quad\\\quad&\quad&\quad\\\quad&\quad&\quad\end{vmatrix}}{\begin{vmatrix}\quad&\quad&\quad\\\quad&\quad&\quad\\\quad&\quad&\quad\end{vmatrix}}= \qquad y=\frac{\begin{vmatrix}\quad&\quad&\quad\\\quad&\quad&\quad\\\quad&\quad&\quad\end{vmatrix}}{\begin{vmatrix}\quad&\quad&\quad\\\quad&\quad&\quad\\\quad&\quad&\quad\end{vmatrix}}= \qquad z=\frac{\begin{vmatrix}\quad&\quad&\quad\\\quad&\quad&\quad\\\quad&\quad&\quad\end{vmatrix}}{\begin{vmatrix}\quad&\quad&\quad\\\quad&\quad&\quad\\\quad&\quad&\quad\end{vmatrix}}$$

$9x + 7y = -30$

10. $8y + 5z = 11$

$-3x + 10z = 73$

Use the following matrices to answer questions #1-7.

$$A = \begin{bmatrix} -3 & -5 & 2 \\ 8 & 1 & 3 \end{bmatrix} \quad B = \begin{bmatrix} 4 & -1 \\ 0 & 2 \\ -4 & 5 \end{bmatrix} \quad C = \begin{bmatrix} -8 & 6 & 4 \\ -5 & 2 & 7 \end{bmatrix}$$

$$D = \begin{bmatrix} 0 & -\frac{1}{4} \\ 1 & \frac{3}{4} \end{bmatrix} \quad E = \begin{bmatrix} 3 & 1 \\ -2 & 0 \end{bmatrix} \quad F = \begin{bmatrix} 4 & -4 \\ 12 & 11 \end{bmatrix}$$

1. Find the dimensions of *B*

2. Find *A + C*

3. Find *B -A*

4. **Find *–3D***

5. **Find the first row of *5E - F***

6. **Find the dimensions of *AB***

7. **Find *AC***

9. The Westfield Youth Baseball and Softball League charges the following registration fees age 7-8: $45, ages 9-10: $55, and ages 11-14: $65. Enrollment is shown in the table.

Team Members		
Age	Baseball	Softball
7-8	350	280
9-10	320	165
11-14	180	120

a) Write a matrix for the registration fees and a matrix for the number of players

b) Find the total amount of money the League received from baseball and softball registrations.