TI-Nspire TIP SHEET

Calculator Page:

Solve one equation with one unknown:
- Menu
- 3. Algebra
- 1. Numerical Solve
- Type equation, then identify unknown
- ex. nSolve($2x + 3x = 4x + 15, x$)

Solve System of Linear Equations
- Menu
- 3. Algebra
- 2. Solve System of Linear Equations
- Select number of equations, then enter
- Type each equation in each line as it appears in the problem, then enter

Solving a Quadratic Equation
- Menu
- 3. Algebra
- 3. Polynomial Tools
- 3. Complex Roots of Polynomial
- Type quadratic in standard form, then identify unknown
- ex. cPolyRoots($x^2 - 3x - 10, x$)

Solve system by Matrix (rref):
- Calculator page
- Type rref()
- Press key to the right of 9, select $\begin{bmatrix} \square & \square & \square \\ \square & \square & \square \\ \square & \square & \square \end{bmatrix}$,
  rows = number of equations, columns = rows + 1
- In each row, enter coefficient of x, coefficient of y, and number on right of = sign for each equation
- Press Enter and look at matrix at right of screen:
- If the last row is all zeros, the system has **NO SOLUTION** example $\begin{bmatrix} 1 & 2 & 4 \\ 0 & 0 & 0 \end{bmatrix}$
- If the last row is all zeros except for the last value, there are **INFINITELY MANY SOLUTIONS** example $\begin{bmatrix} 1 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$
- If the matrix not including the last column is an identity matrix
- LAST COLUMN IS **X and Y** example $\begin{bmatrix} 1 & 0 & 4 \\ 0 & 1 & -5 \end{bmatrix}$

Graph Page:

Graphing multiple functions
- Tab, will bring the function prompt to enter another function

Table form a function
- Graph a function
- Ctrl t

Put calculator into Standard Form mode on graph page:
- MENU
- 3. Graph Entry/Edit
- 2. Equation
- 1. Line
- 3. a*x+b*y=c

Put calculator into Function Mode on graph page:
- MENU
- 3. Graph Entry/Edit
- 1. Function

Enter an inequality on calculator:
- Delete = sign
- Select an inequality sign from menu
- Enter rest of inequality expression

Solve system by graphing using the intersection
- Graph the equations of the system
- MENU
- 6. Analyze Graph
- 4. Intersection
- click left of intersection, then click right of intersection

Find the vertex on a quadratic equation
- Graph the quadratic equation
- MENU
- 6. Analyze Graph
- 2. Minimum or 3. Maximum
- Click left of intersection, then click right of intersection

Find the zero on a quadratic equation
- Graph the quadratic equation
- MENU
- 6. Analyze Graph
- 1. Zero
- Click left of intersection, then click right of intersection