

Start in Graph and Table.

We will find the maximum value of $5x + 15y$ given the four constraints

$$y \leq 3 - \frac{x}{4}, y \leq 6 - x, y \geq 1, x \geq 2$$

Tap **Edit**, **Clear All**.

Enter $3 - x/4$ for **y1** and tap **EXE**.

Tap onto the = sign in the **y1** line.

The Type box opens. Modify the type to suit the inequality as shown.

Tap **OK**.

Now enter both of **y2** and **y3** and modify the type for each.

Tap into the box for **y4**.

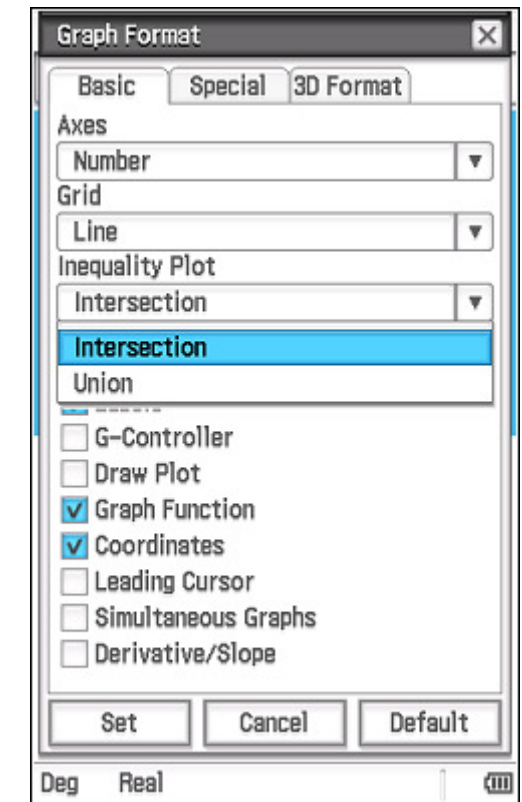
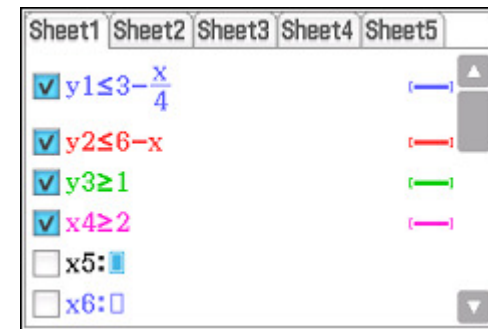
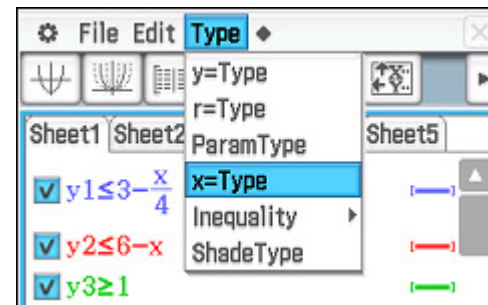
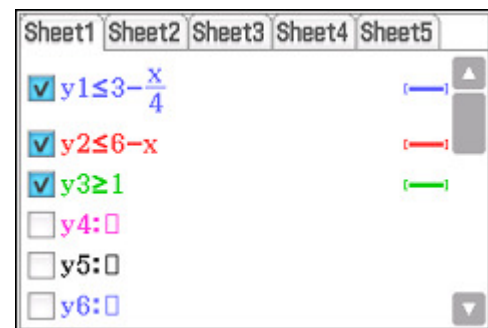
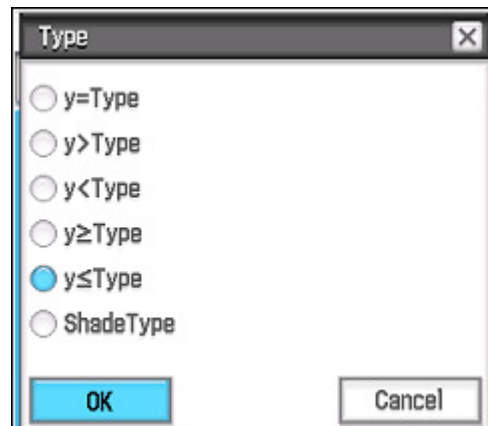
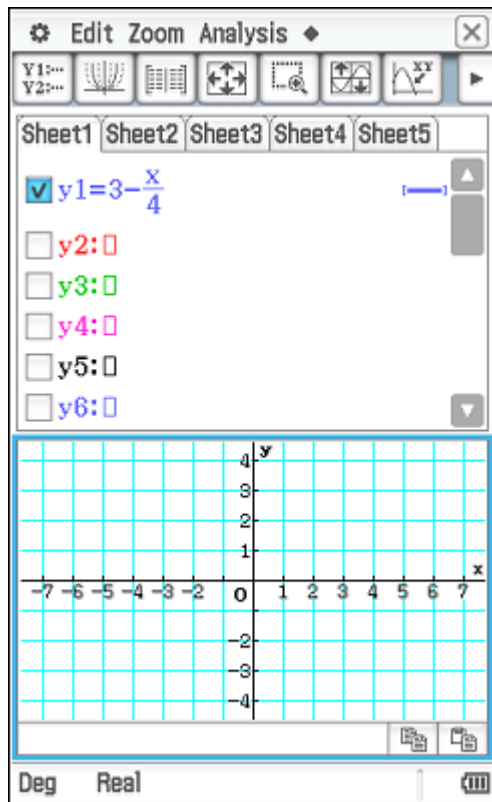
Tap Type and tap **x=Type**.

(This sets all functions from now on to be this type. When finished, tap Edit, Clear All or Type, $y = \text{Type}$ to reset.)

Complete **x4** by entering a 2, modify the Type to an inequality and tap **EXE**.

Tap Settings, Graph Format and modify the Inequality Plot to **Intersection**.

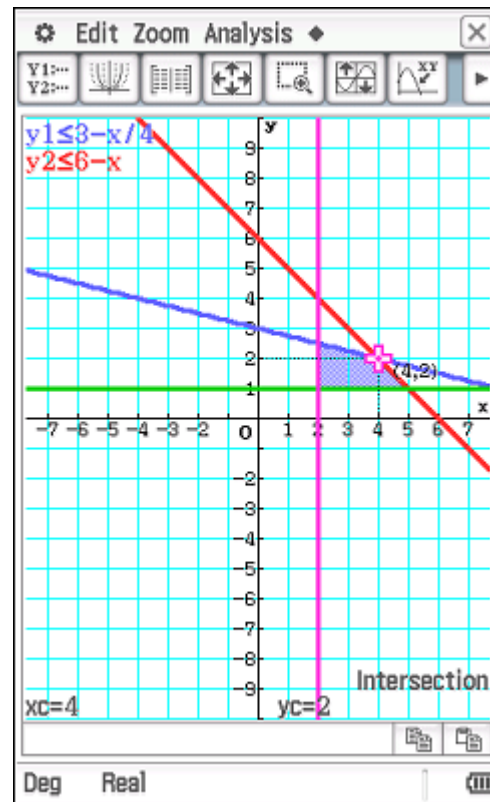
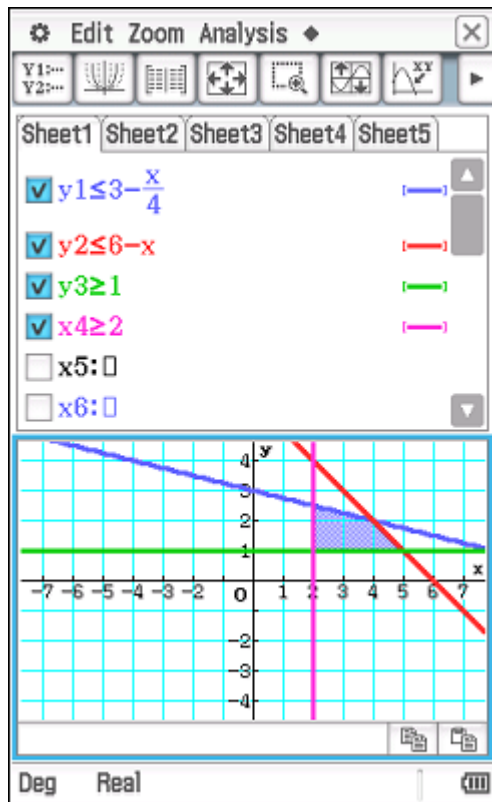
Tap Set to confirm.



Find the corners of the feasible region using **Analysis, G-Solve, Intersection**.

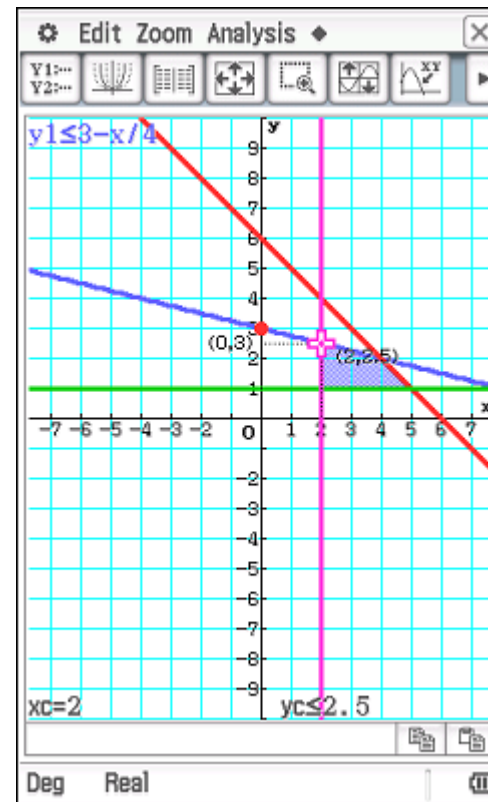
(Note that with multiple lines drawn, use the up/down cursor control to select the first line, tap EXE and repeat to select the second line.)

Tap the Draw Graph icon .



Classpad will only find intersection points of $y=$ function types, not $x=$.

To find the corners on the $x=$ line, tap **Analysis, Trace** and use the up/down cursor to select one of the sloping $y=$ lines. Then press the **2** key to open the **Enter x-value** box and tap **OK**.



Record the coordinates of the 3 vertices likely to maximise the objective function and open the Main application.

A possible way to determine the optimum value using matrices is shown.

