


# Conic Menu

The Conic Menu will graph conics in an (H, K) form, such as  $x = A(y - K)^2 + H$ , a standard form such as  $x = Ay^2 + By + C$ , or the general form,  $Ax^2 + Bxy + Cy^2 + Dx + Ey + F = 0$ . The general form includes rotated conics. The easiest way to input the equation for the relation is to insert a form, and edit the coefficients.

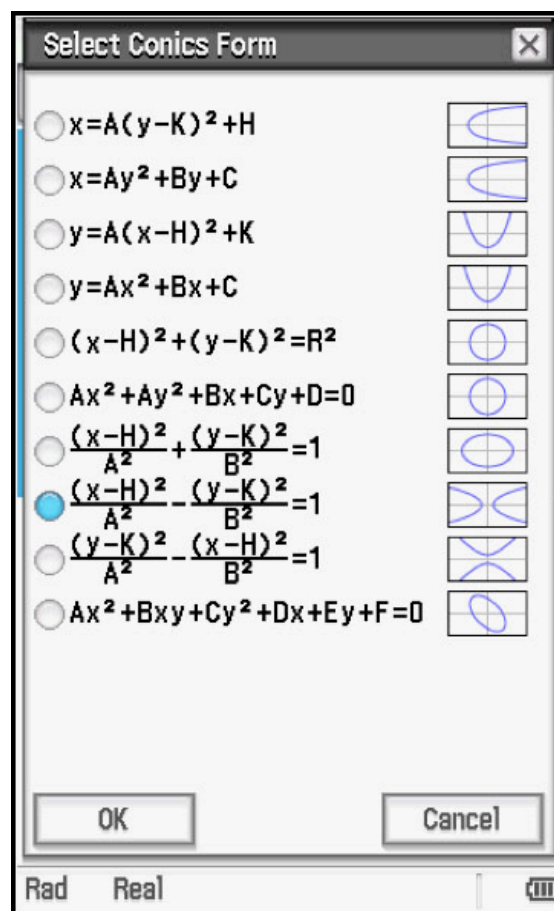
The G-Solve commands will display important features related to conics, such as a center, vertices, foci, and asymptotes.

1. Graph  $\frac{(x - 2)^2}{6^2} - \frac{(y + 1)^2}{8^2} = 1$


Tap  , then the Conics icon.

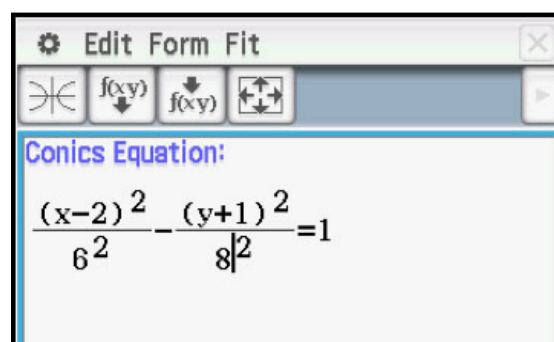
Tap .

Select the form for this hyperbola, and tap **OK**.




Edit the coefficients **A**, **B**, **H**, and **K**. Highlight the letter and press the key for the number. For **K**, also change from subtraction to addition.







Tap  to set the window, or use shortcuts after graphing.

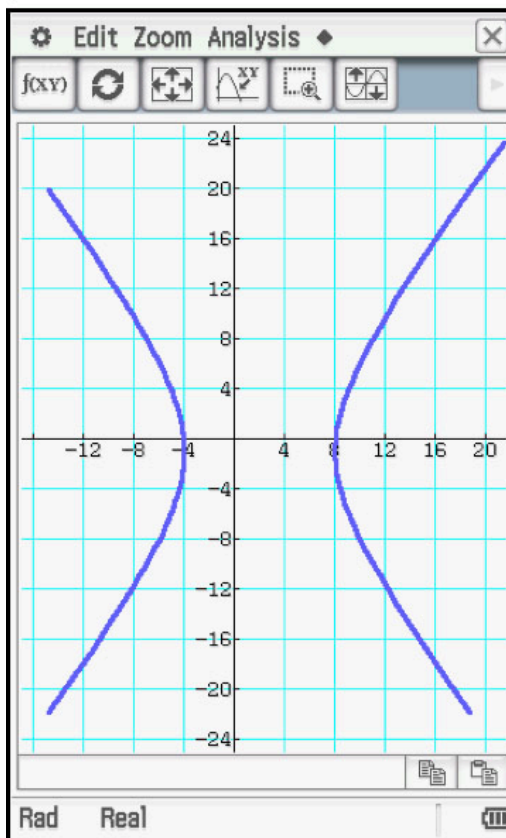
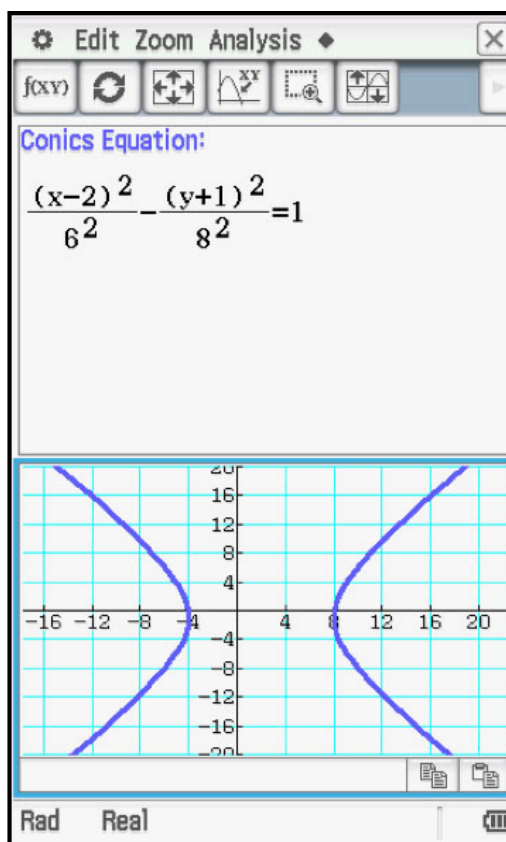


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Tap  to graph.

Tap  to plot the graph in a full screen. You may wish to adjust the window.

The window can be easily changed by using   
   to scroll in any of the four directions,  
 to zoom in, and  to zoom out.



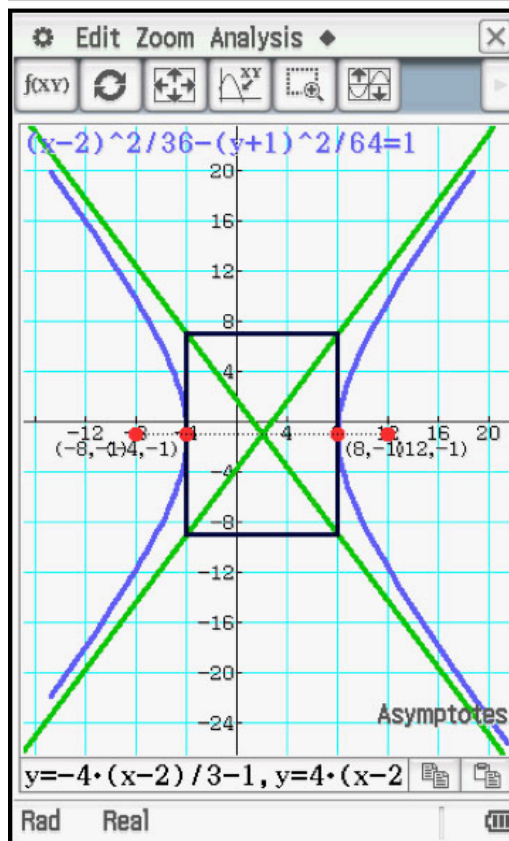
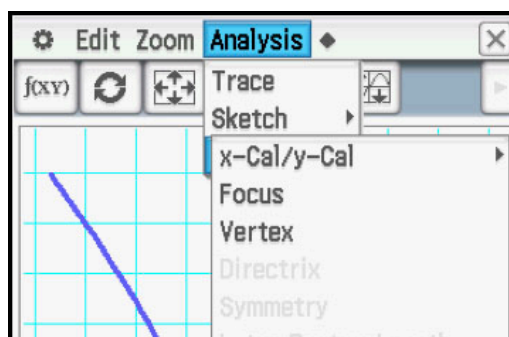
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2. Display the vertices, foci, and asymptotes.

For vertices, tap **Analysis, G-Solve, Vertex**.

Press **EXE** to mark the point and keep the coordinates on the display. Press **◀** to display the other vertex.


Use **G-Solve** in the same manner for foci and asymptotes.

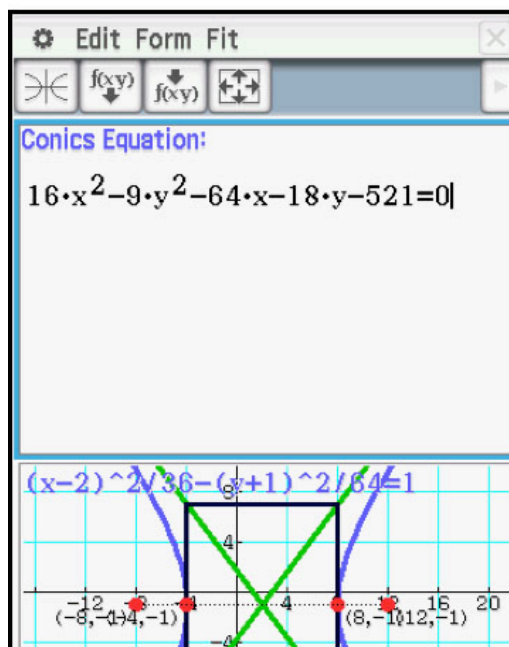
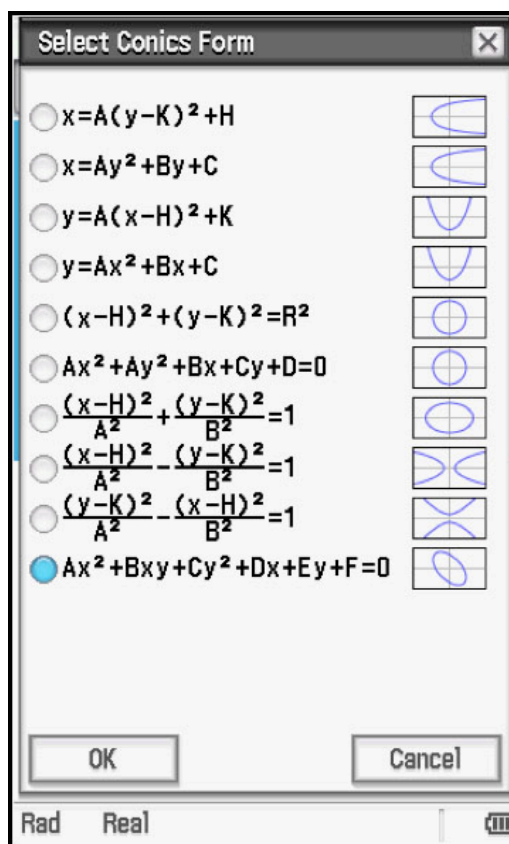


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3. Convert the equation to a standard form.

Tap , then tap the equation window.

Tap , then select the bullet for general form, then tap **OK**.



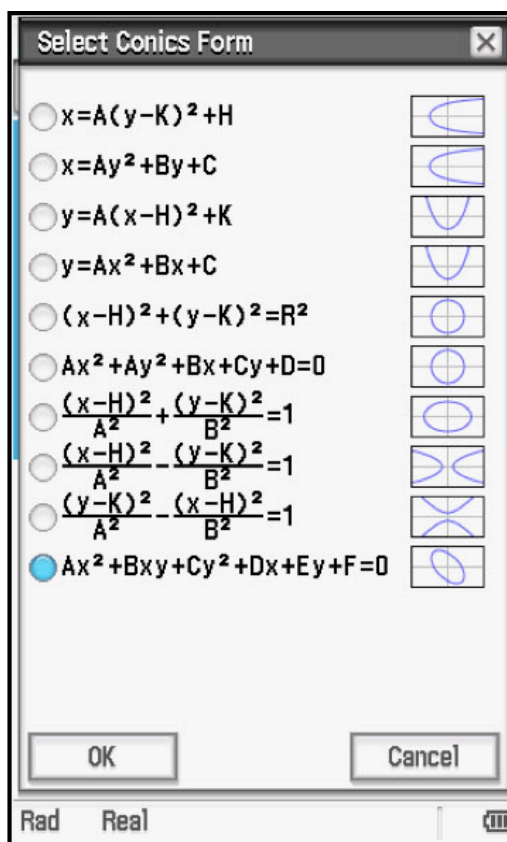
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4. Graph the rotated conic

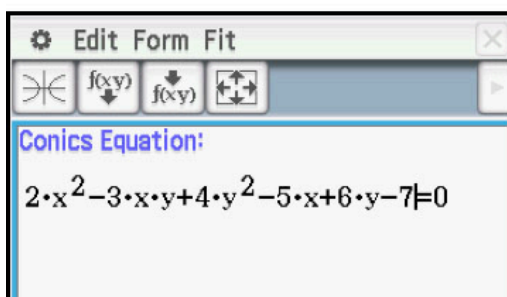
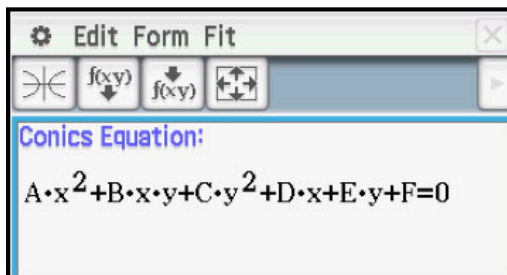
$$2x^2 - 3xy + 4y^2 - 5x + 6y - 7 = 0.$$

Tap .

Tap the bullet for general form, then tap **OK**.

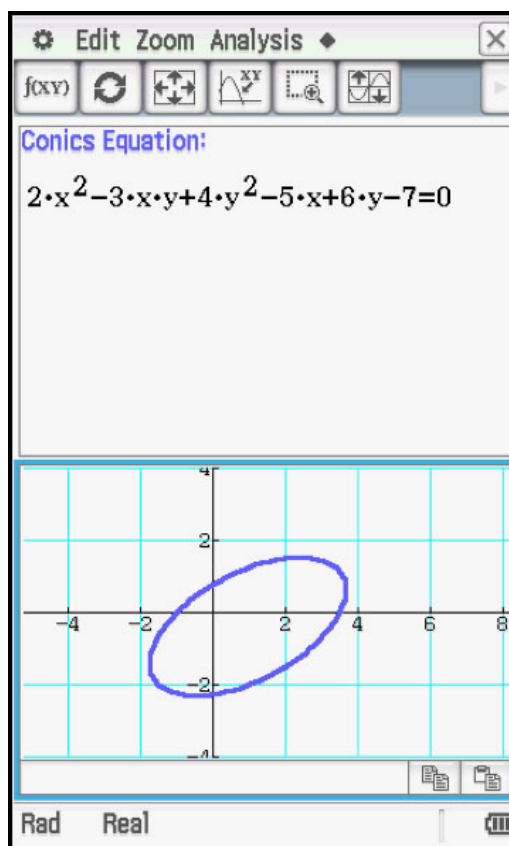



Edit the coefficients and the signs. The addition sign and the number can be highlighted together.









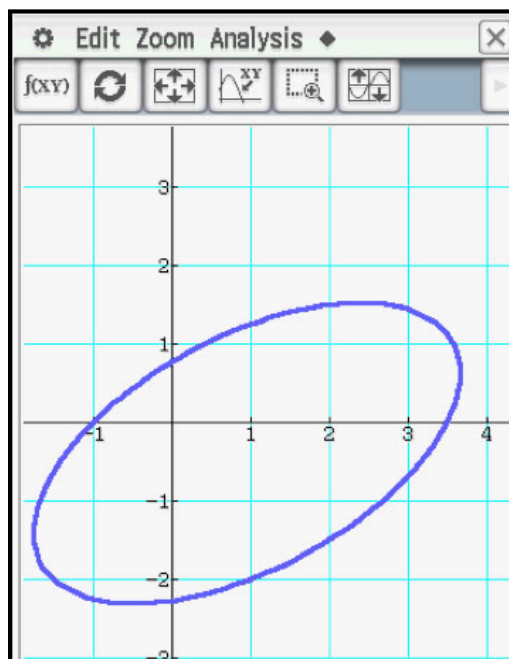
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Tap  to graph.



Again, you may tap  to plot the graph in a full screen. You may wish to adjust the window.

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**G-Solve** commands may be used on rotated conics.

