### *Objectives:*

Using the **FACTORING** aplet, the student will symbolically factor second degree trinomials in the form $Ax^2+Bx+C$.

### *Functionality:*

When the student presses **START**, the **FACTORING NOTE** will be displayed.

After reading the note, the student should view the **SKETCH**.

Pressing **VIEWS** will allow the student to enter the values of A, B, and C in the expression $Ax^2+Bx+C$, to guess the factors of the corresponding trinomial, to see the factors of the trinomial, to graph $y= Ax^2+Bx+C$, and to show the roots of $y=Ax^2+Bx+C$.

**Enter A, B, C** will prompt the student, through a series of input boxes, to enter the values of A, B, and C in the expression $Ax^2+Bx+C$.

**Guess Factors** will prompt the student, through a series of input boxes, for the values of D, E, F, and G to factor the trinomial into (Dx+E)(Fx+G).

When the factors are entered, the calculator returns a message detailing the correctness of the students answer.

**Show Factors** displays the trinomial and its factors.

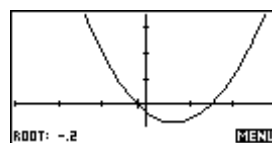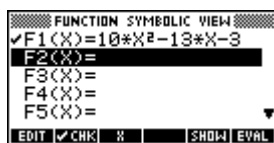**Graph** displays the graph of $y= Ax^2+Bx+C$.
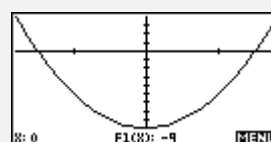
**Show Roots** displays the roots of the graph.

*Additional Exploration*:

Using the **Function** aplet, plot any quadratic function. In the **PLOT SETUP**, choose an appropriate window that will show the any roots and the vertex. Use the **FNC** folder in the plot menu to find the roots. An example would be:

<div align="center">Find the roots of $f(x)=10x^2-13x-3$.</div>



Programs associated with this aplet:
        .FA.CO, .FA.FA, .FA.SA, .FA.GR, .FA.SR, .FA.ST, .FA.SV