

## Technology Activity

(Use with Lesson 11-3)

## Solving Quadratic Equations

The graphing calculator program below solves quadratic equations by using the quadratic formula and graphs each equation. You must input the values for A, B, and C. Set the viewing window as follows.

$$\begin{array}{ll} X_{\min} = -9.4 & Y_{\min} = -6.2 \\ X_{\max} = 9.6 & Y_{\max} = 6.4 \\ X_{\text{scl}} = 1 & Y_{\text{scl}} = 1 \end{array}$$

```
PROGRAM:QUADRAT
:CoordOn
:RectGC
:AxesOn
:ClrDraw
:ClrHome
:Input "INPUT A: ",A
:Input "INPUT B: ",B
:Input "INPUT C: ",C
:(B2 - 4AC)→D
:If D≥0
:Then
:(-B+√D)/2A→Y
:(-B - √D)/2A→Z
:Disp "X1",Y
:Disp "X2",Z
:Else
:Disp "NOT POSSIBLE"
:End
:Disp "PRESS ENTER"
:Disp "TO GRAPH"
:Pause
:DrawF AX2+BX+C
```

Use the program to solve each equation. If necessary, round to the nearest hundredth.

1.  $x^2 - 3x + 2 = 0$   
**1, 2**

2.  $x^2 - x - 2 = 0$   
**-1, 2**

3.  $x^2 + 6x - 16 = 0$   
**-8, 2**

4.  $4x^2 + 8x = 0$   
**0, -2**

5.  $2x^2 + 7x + 3 = 0$   
**-0.5, -3**

6.  $4x^2 + 12x + 9 = 0$   
**-1.5**

7.  $x^2 - 4x + 1 = 0$   
**0.27, 3.73**

8.  $x^2 - 36x - 28 = 0$   
**-0.76, 36.76**

9.  $3x^2 - 5x + 1 = 0$   
**2.09, 12.91**