Calculator Appendix O

(Finding function values)
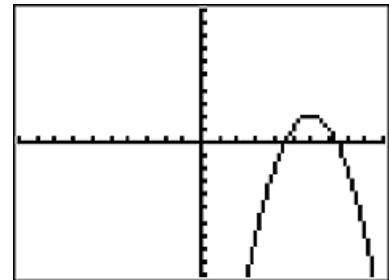
To find the value of a function at a particular value of *x*, first enter the function by pressing **Y=**. Then enter the function at Y1=. The example used here for **Y1** is $-x^2 + 12x - 34$.

```
Plot1  Plot2  Plot3
\Y1◘ -X²+12X-34
\Y2=
\Y3=
\Y4=
\Y5=
\Y6=
\Y7=
```
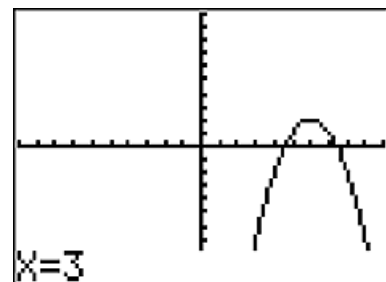
Press **Graph** to display the graph of this parabola.

To evaluate this function at a particular value of *x*, press **2ⁿᵈ Calc**. and choose **1: value**.
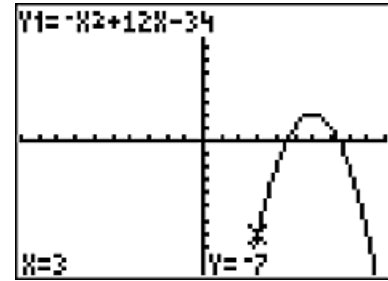
```
CALCULATE
1▮value
2:zero
3:minimum
4:maximum
5:intersect
6:dy/dx
7:∫f(x)dx
```

Notice in the lower left corner of the resulting display, that we are invited to enter the *x*-value at which we wish to evaluate the function. For the sake of this demonstration, enter 3.

```
X=3
```

The answer we should get is $f(3) = -(3)^2 + 12(3) - 34 = -7$.

The resulting display shows the *y* value (the function value) is -7. As a bonus, the location of this point (3, -7) is marked on the graph of the function with a small x.

Beware of an error condition:

An error will result when trying to produce the value of a function if the position of that value on the graph of the function is not within the current window.