

## Technology Activity

(Use with Lesson 5-5)

*Using Function Notation*

You can use a TI-83 to evaluate functions using functional notation.

*Example*

If  $f(x) = 2x^2 - 5x + 7$  and  $g(x) = 8x - 3$ , find:

- $f(2)$ , and
- $-3[g(-2)]$ .

Enter the following formulas in the Y=list:  $Y_1=2X^2-5X+7$  and  $Y_2=8X-3$ .

Press **2nd** **QUIT** to return to the home screen.

**Enter:** **VAR** → **ENTER** 1 **(** 2 **)** **ENTER** **5**

**Enter:** **(-)** 3 **(** **VAR** → **ENTER** 2 **(** **(-)** 2 **)** **)** **ENTER** **57**

You can see from the graphing calculator screen that  $f(2) = Y_1(2)$  or 5 and  $-3[g(-2)] = -3(Y_2(-2))$  or 57.

If  $f(x) = 3x^2 = 8x + 16$  and  $g(x) = 155x - 48$ , find each value using your graphing calculator and functional notation.

- |                                 |                              |                             |
|---------------------------------|------------------------------|-----------------------------|
| 1. $f(-2)$ <b>44</b>            | 2. $g(5)$ <b>727</b>         | 3. $f(0.25)$ <b>14.1875</b> |
| 4. $5[f(2)]$ <b>60</b>          | 5. $-2[g(0.5)]$ <b>-59</b>   | 6. $0.3[g(2)]$ <b>78.6</b>  |
| 7. $3[f(1)] - g(2)$ <b>-229</b> | 8. $g(4) - f(10)$ <b>336</b> |                             |

If  $S(x) = |3x - 16|$  and  $h(x) = 25 - 2x^2$ , find each value using your graphing calculator and functional notation.

- |                            |                                |
|----------------------------|--------------------------------|
| 9. $S(-11)$ <b>49</b>      | 10. $h(-4)$ <b>-7</b>          |
| 11. $S(2) - h(3)$ <b>3</b> | 12. $S(-5) + h(-6)$ <b>-16</b> |