

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 $\boxed{2nd}$ \boxed{QUIT} to return to the home screen.

Enter: \boxed{VAR} \rightarrow \boxed{ENTER} 1 $\boxed{(}$ 2 $\boxed{)}$ \boxed{ENTER}

Enter: $\boxed{(-)}$ 3 $\boxed{(}$ \boxed{VAR} \rightarrow \boxed{ENTER} 2 $\boxed{(}$ $\boxed{(-)}$ 2 $\boxed{)}$ $\boxed{)}$ \boxed{ENTER}

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.

- $f(-2)$
- $g(5)$
- $f(0.25)$
- $5[f(2)]$
- $-2[g(0.5)]$
- $0.3[g(2)]$
- $3[f(1)] - g(2)$
- $g(4) - f(10)$

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

- $S(-11)$
- $h(-4)$
- $S(2) - h(3)$
- $S(-5) + h(-6)$