

ACTIVITY 1.2

Using Technology

Calculator Activity for use with Lesson 1.2

Evaluating Expressions

You can use a scientific calculator or a graphing calculator to evaluate expressions. Keystrokes for evaluating several expressions are shown below. Because the keystrokes shown may not agree precisely with the keystrokes for *your* calculator, you should make sure you know how to evaluate the expressions using your own calculator.

EXAMPLE

EXPRESSION	CALCULATOR	KEYSTROKES	RESULT
a. $-3^2 + 4$	Scientific	3 x^2 +/- + 4 =	-5
$-3^2 + 4$	Graphing	(-) 3 x^2 + 4 ENTER	-5
b. $(-3)^2 + 4$	Scientific	3 +/- x^2 + 4 =	13
$(-3)^2 + 4$	Graphing	((-) 3) x^2 + 4 ENTER	13
c. $(24 \div 2)^3$	Scientific	(24 \div 2) y^x 3 =	1728
$(24 \div 2)^3$	Graphing	(24 \div 2) ^ 3 ENTER	1728
d. $\frac{5}{4 + 3 \cdot 2}$	Scientific	5 \div (4 + 3 \times 2) =	0.5
$\frac{5}{4 + 3 \cdot 2}$	Graphing	5 \div (4 + 3 \times 2) ENTER	0.5

On a scientific calculator, notice the difference between the change sign key, +/-, and the subtraction key, -. Likewise, on a graphing calculator, the negation key, (-), and the subtraction key, -, do not perform the same operation.

EXERCISES

Write an expression that corresponds to the calculator keystrokes. Then evaluate the expression.

- Scientific: 4 +/- x^2 - 5 =
- Scientific: 7 \div (3 +/- - 5) =
- Graphing: (1 + 4) ^ 6 ENTER
- Graphing: 3 \times (5 - 2) ENTER

Use a calculator to evaluate the expression. Round the result to three decimal places.

- $3(5.3 - 4.1)^2$
- $(-2.6 - 12.5)^4$
- $(0.21 + 5.23)^3$
- $\frac{4}{3}\pi(5.5)^3$
- $\frac{9.2 - 4.5}{0.6}$
- $\frac{7.3}{-6.2 - 3.6}$
- $1024(1 + 0.42)^5$
- $\frac{1 + 3 \cdot 4^2}{7.25}$
- $\left(\frac{2^3 + 1}{2 \cdot 5}\right)^2$

STUDENT HELP

KEYSTROKE HELP

See keystrokes for several models of calculators at www.mcdougallittell.com