

ACTIVITY 10.1

Using Technology

Graphing Calculator Activity for use with Lesson 10.1

Graphing Polynomial Functions

You can use a graphing calculator or a computer to check an answer when finding the sum or difference of polynomials.

EXAMPLE

One of the expressions below is the difference of $2x^2 + 3x - 1$ and $-x^2 - 2x + 3$. Use a graphing calculator to check which is correct.

A. $x^2 + 5x - 4$

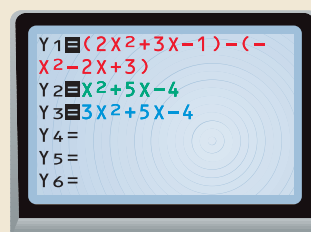
B. $3x^2 + 5x - 4$

SOLUTION

- 1 Enter $(2x^2 + 3x - 1) - (-x^2 - 2x + 3)$ as equation Y1.

Enter $x^2 + 5x - 4$ as equation Y2.

Enter $3x^2 + 5x - 4$ as equation Y3.

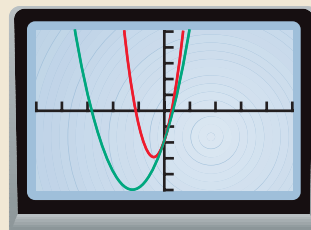


- 2 Graph equations Y1 and Y2 on the same screen.

The graphs do not coincide, so

$$(2x^2 + 3x - 1) - (-x^2 - 2x + 3)$$

is not equal to $x^2 + 5x - 4$.

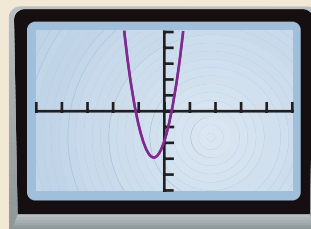


- 3 Graph equations Y1 and Y3 on the same screen.

The graphs coincide, so

$$(2x^2 + 3x - 1) - (-x^2 - 2x + 3)$$

equals $3x^2 + 5x - 4$.



EXERCISES

Tell whether the given answer is a correct sum or difference. If it is incorrect, find the correct answer.

1. $(2x^2 - 3x + 5) + (-x^2 + 2x - 6) \stackrel{?}{=} x^2 - x - 1$

2. $(-x^2 - 3x - 1) - (-2x^2 + 4x + 5) \stackrel{?}{=} -3x^2 + x + 4$

Find the sum or difference. Then use a graphing calculator or a computer to check your answer.

3. $(2x^2 - 6x - 3) + (x^2 - 3x + 3)$

4. $(x^2 - 14x + 5) + (-2x^2 - 3x + 2)$

5. $(x^2 + 12x + 6) - (3x^2 - 2x + 2)$

6. $(-3x^2 + 5x - 8) - (x^2 - 5x - 8)$

7. $(2x^2 + 10x + 3) + (4x^2 + 2x - 4)$

8. $(x^2 - 4x + 5) - (-2x^2 - 3x + 7)$

STUDENT HELP



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