

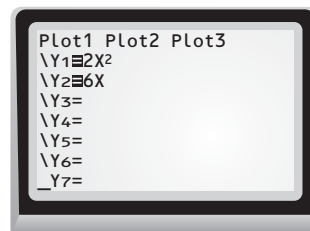
LESSON
8.4**Graphing Calculator Activity:
Solving Polynomial Equations***For use before the lesson "Solve Polynomial Equations in Factored Form"***QUESTION** How can you use a graphing calculator to solve a polynomial equation?

You can solve a polynomial equation by graphing each side of the equation. Then find the point(s) of intersection. Any x -value of a point of intersection is a solution of the original equation. Remember to check any solution in the original equation.

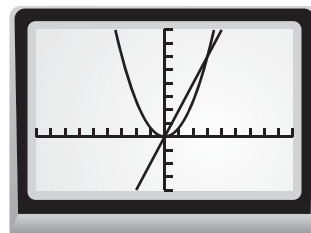
EXAMPLE Solve a polynomial using a graphing calculator

Use a graphing calculator to solve $2x^2 = 6x$.

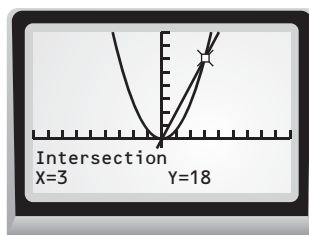
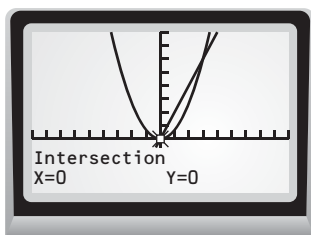
STEP 1 Press $\boxed{Y=}$. Let y_1 equal the left side of the equation. Let y_2 equal the right side of the equation.



STEP 2 Graph the equations using a friendly viewing window.



STEP 3 Use the *intersect* feature. Press $\boxed{2nd}$ $\boxed{[CALC]}$ 5. The graphs intersect when $x = 0$ and $x = 3$. You can see that these are solutions of the original equation by doing an algebraic check.

**PRACTICE** Use a graphing calculator to solve the polynomial equation. Round your answer to the nearest tenth.

1. $(x - 5)(x + 2) = 0$

2. $5x = 3x^2$

3. $12x^2 = 42x$

4. $24x^2 = -9x$

LESSON
8.4**Graphing Calculator Activity:
Solving Polynomial Equations** *continued**For use before the lesson "Solve Polynomial Equations in Factored Form"***TI-83 Plus**

$Y=$ 2 X,T,θ,n x^2 ENTER 6 X,T,θ,n
 ENTER WINDOW $(-)$ 10 ENTER 10
 ENTER 1 ENTER $(-)$ 5 ENTER 25
 ENTER 5 ENTER 2^{nd} [CALC] 5
 ENTER ENTER 0 ENTER 2^{nd}
 [CALC] 5 ENTER ENTER 3

Casio CFX-9850GC Plus

From the main menu, choose GRAPH.

2 X,θ,T x^2 EXE 6 X,θ,T EXE
 SHIFT F3 $(-)$ 10 EXE 10 EXE 1 EXE
 $(-)$ 5 EXE 25 EXE 5 EXE EXIT F6
 SHIFT F5 F5 \blacktriangleright