

TALK the TALK **The Difference of Squares**

In this lesson you determined the zeros of quadratics written in the form $f(x) = ax^2 - c$.

1. Solve each equation.

a. $x^2 - 25 = 0$

b. $4x^2 - 1 = 0$

c. $9x^2 - 2 = 0$

d. $x^2 - 80 = 0$

2. Rewrite each quadratic function as two linear factors using what you know about the difference of two squares.

a. $f(x) = x^2 - 49$

b. $f(x) = \frac{4}{9}x^2 - 1$

c. $f(x) = 16x^2 - 10$

d. $f(x) = x^2 + 9$

3. Explain how to write any function of the form $f(x) = ax^2 - c$, where a and c are any real numbers, as two linear factors using what you know about the difference of two squares.