

Coreq Support for Section 4.3

Topic 1: Graphing Transformations of the Square Function and the Cube Function

In section 3.4, we learned how to use transformations to graph families of functions by starting with the graph of a basic function. Two of the basic functions introduced in section 3.3 were the square function, $f(x) = x^2$, and the cube function, $f(x) = x^3$.

Topic 2: Identifying Polynomial Functions

The square function and the cube function are examples of polynomial functions. Recall the definition of a polynomial function from section 3.1.

The function $f(x) = a_n x^n + a_{n-1} x^{n-1} + a_{n-2} x^{n-2} + \cdots + a_1 x + a_0$ is a **polynomial function** of degree n where n is a nonnegative integer and $a_0, a_1, a_2, \dots, a_n$ are real numbers. The domain of every polynomial function is $(-\infty, \infty)$.

Topic 3: Solving Polynomial Equations by Factoring

In section 1.4, we learned how to solve quadratic equations by factoring. In section 1.6, we learned how to solve higher order polynomial equations by factoring.

Topic 4: Evaluating Polynomial Functions for Given Inputs