Quadratics

Station guide

This station explores quadratic functions of one variable, namely those of the form $f(x) = ax^2 + bx + c$.

Quadratic functions provide the first opportunity for students to explore the properties of non-linear functions in general and of non-linear polynomials in particular. While students are likely to have met quadratic equations earlier in their mathematical studies, we focus at this station on their many interrelated properties.

We look at the symmetry of their graphs in resources such as Which quadratic and Quadratic symmetry. A number of other resources, including Name that graph, explore the connections between the various algebraic forms and how these are related to their graphs. Discriminating explores the meaning and usefulness of the discriminant of a quadratic, and offers further opportunities to build connections between the graphical and algebraic representations of quadratics.

These perspectives should help students as they go on to meet further functions later, such as cubics and trigonometric functions.

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