



## Vocabulary: Graphs of Polynomial Functions



### Vocabulary

- **Absolute extrema** – the highest or lowest points of the graph of a function.
  - The highest point is an *absolute maximum*, and the lowest point is an *absolute minimum*.
- **Cubic function** – a function defined by a polynomial of degree 3.
  - The graph of the cubic function  $y = x^3 + 3x^2 + x + 1$  is shown to the right.
- **End behavior** – the behavior of the graph of a function as  $x$  approaches infinity and negative infinity.
- **Quadratic function** – a function defined by a polynomial of degree 2.
  - The graph of the quadratic function  $y = 4x^2 + 2x - 1$  is shown to the right.
  - The graph of a quadratic function is always a parabola.
- **Quartic function** – a function defined by a polynomial of degree 4.
  - The graph of the quartic function  $y = x^4 - x^3 - 3x^2 + 2x + 1$  is shown to the right.
- **Relative extrema** – the highest or lowest points in a section of a graph of a function.
  - The highest point in a given section is called a *relative maximum* or *local maximum*.
  - The lowest point in a given section is called a *relative minimum* or *local minimum*.

