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 + 3*x*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* = 4*x*2 + 2*x* – 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 – 3*x*2 + 2*x* + 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*.