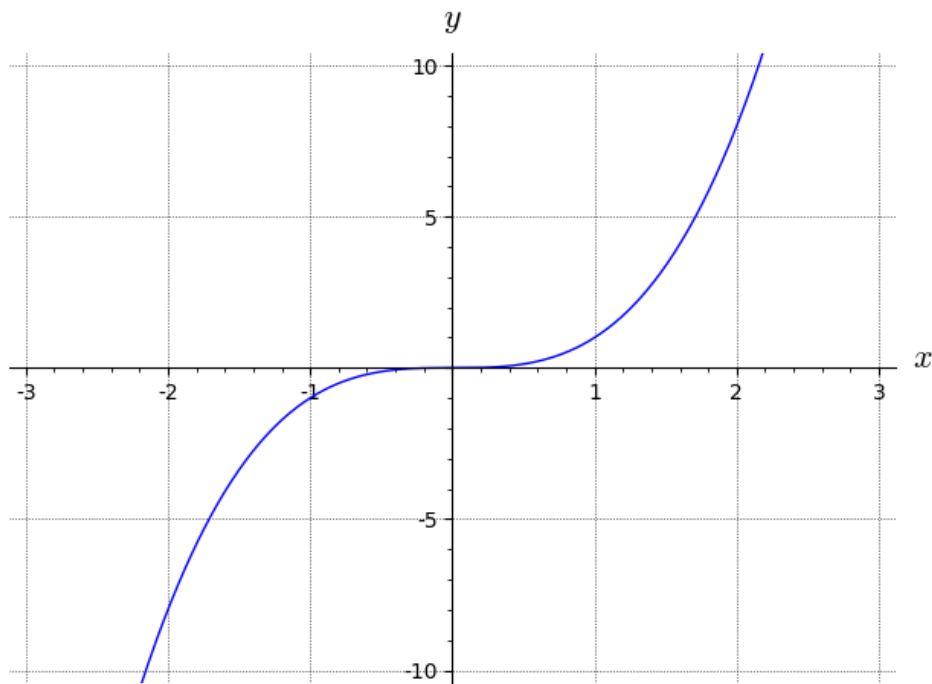


## Cubing Function

The cubing function has the form  $f(x) = x^3$ .



Properties of the cubing function  $f(x) = x^3$ :

- Domain: All real numbers,  $(-\infty, \infty)$
- Range: All real numbers,  $(-\infty, \infty)$
- Symmetry:  $f$  is an odd function. Its graph is symmetric about the origin.
- Increasing/Decreasing:
  - $f$  is increasing on  $(-\infty, 0) \cup (0, \infty)$ .
  - The graph has a flat spot at the point where  $x = 0$ .
- Extreme values: None.
- Interesting features:
  - Between  $x = -1$  and  $x = 1$ , the graph of  $y = x^3$  is flatter than the graph of  $y = x^2$ .
  - Outside the interval from  $x = -1$  to  $x = 1$ , the graph of  $y = x^3$  is steeper than the graph of  $y = x^2$ .