

Increasing & Decreasing Functions

A function is 'increasing' when $\frac{dy}{dx} \geq 0$ (or *strictly* increasing if $\frac{dy}{dx} > 0$).

Similarly a function is 'decreasing' when $\frac{dy}{dx} \leq 0$ (or *strictly* decreasing if $\frac{dy}{dx} < 0$).

(It's worth noting the absurdity of this definition: the line $y = \text{constant}$ is both increasing and decreasing for all x ...)

1. For what values of x is $x^3 + 3x^2 - 9x - 27$ an increasing function?