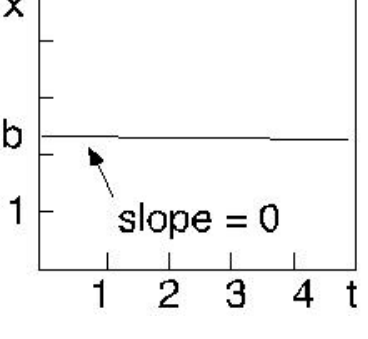
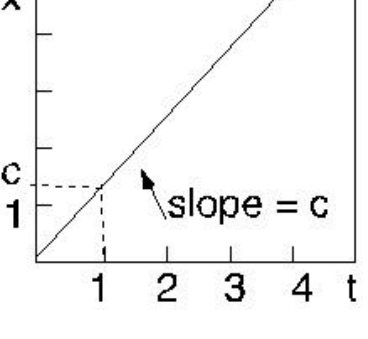
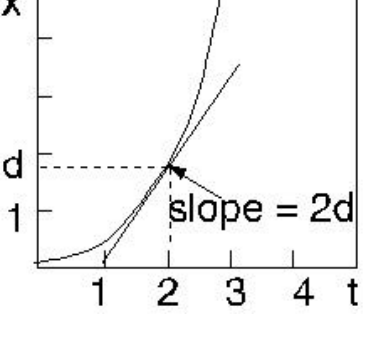


Common Derivatives used for motion in 1, 2 and 3 dimensions

x(t)	Graph	$\frac{dx}{dt}$
$x = b$ function is constant in time		$\frac{dx}{dt} = 0$
$x = c \cdot t$ function is linear in time		$\frac{dx}{dt} = c$
$x = d \cdot t^2$ function is quadratic in time		$\frac{dx}{dt} = 2 \cdot d \cdot t$
$x = e \cdot t^3$ function is cubic in time or a general power: $x = f \cdot t^n$		$\frac{dx}{dt} = 3 \cdot e \cdot t^2$ derivative of power n: $\frac{dx}{dt} = n \cdot f \cdot t^{n-1}$