tan(x) is a periodic tangent function. For real arguments, the Tangent function can defined as: the tangent of an angle α in a right-angle triangle is the ratio of the length of the opposite leg to the length of the adjacent leg. Also, Tangent function is basically defined by:

$$\tan x \equiv \frac{\sin x}{\cos x},$$

where sin (x) is sine function and cos(x) is cosine function.

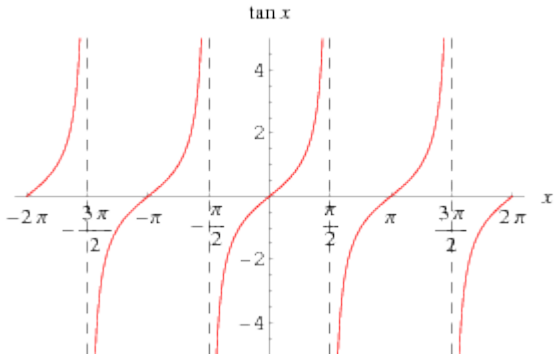

Fig : Tangent Function

DOMAIN : $(\theta \mid \theta \neq k(\pi/2)$, where k is an odd integer)

CO-DOMAIN: $(-\infty, \infty)$

CHARACTERISTICS:

- Period of tangent function is π.
- Vertical Asymptotes: x = π/2 + k π, where k is an integer.
- Tangent is an increasing function in every interval between any of two successive vertical asymptotes, that is f(x1) < f(x2) for all x1 < x2.
- Tangent is an odd function with mirror symmetry since tan(-x) = - tan(x) and it's graph is symmetric with respect to origin.
- Zeroes of tangent are $n\pi$ for $n \in Z$, which are same as that of sine function.