PROBLEM 1 - F2: $tan(x)$

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Problem 1 solution:

0.1.1 Function F2: Tangent Function, $tan(x)$

$tan(x)$ is a trigonometric function which relate a right-angled triangle to ratios of two side lengths. In addition, it also uses to find the slope of a line.

In the graph of a tangent function, there are no high or low points, so this function does not have an amplitude. The tangent function is define as below:

$$tan(x) = \frac{sin(x)}{cos(x)}$$

the tangent function is undefined when $cos(x) = 0$, therefore, tangent function has a vertical asymptote whenever $cos(x) = 0$.

The range of $tan(x)$ is all real number, except 0. The $tan(x)$ does not have amplitude therefore, it has vertical asymptotes. As, tangent function increases and decreases without bound between vertical asymptotes, there is no horizontal asymptotes exist for it.

The domain of tangent function is all real number except the value where $cos(x) = 0$ because if $cos(x) = 0$ then $tan(x)$ will be undefined. The co-domain of $tan(x)$ is $(-\infty, +\infty)$.

PROBLEM 1 - F*

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PROBLEM 1 - F7

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