Period of a Trigonometric Function

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Formula

When you have a trigonometric function in the form of *cos(kx)* or *sin(kx)*, the period of the function L is computed using the coefficient k:

$$L = \frac{2\pi}{k}$$

Example 1

Compute the period of the function $f(x)$, where

$$f(x) = cos(4\pi x).$$

Solution: Here the coefficient k is
The period of the function is therefore :

$$L = \frac{2\pi}{k} =$$

Example 2

Compute the period of the function $f(x)$, where

$$f(x) = 2sin(0.5x).$$

Solution

Here the coefficient k is 0.5

The period of the function is therefore

$$\frac{2\pi}{k} =$$

Example 3

Compute the period of the function $f(x)$, where

$$f(x) = sin(\frac{\pi x}{2}).$$

Solution

Here the coefficient k is

The period of the function is therefore

$$\frac{2\pi}{k} =$$

Example 4

Compute the period of the function $f(x)$, where

$$f(x) = sin\left(\frac{x}{2}\right).$$

Solution

Here the coefficient k is

The period of the function is therefore

$$\frac{2\pi}{k} =$$