

Answer on Question #80106 – Math – Algebra

Question

Find the period of $\sin x + \sin 2x$

Given:

$$F(x) = \sin(x) + \sin(2x);$$

T - ?

Solution

$T = t / k$, t is a period of the function (function may be \sin , \cos ...), k is the coefficient in the expression $y(x) = Af(kx + b)$.

To find periods of two functions, one has to find LCM and it will be the answer:

1) $\sin(x)$, $k = 1$, $T_1 = 2\pi / 1 = 2\pi$;

2) $\sin(2x)$, $k = 2$, $T_2 = 2\pi / 2 = \pi$;

LCM of $T_1 = 2\pi$ and $T_2 = \pi$ is $T = 2\pi$.

Answer: $T = 2\pi$.