

Catching a Wave

Wednesday, September 22, 2021 5:48 PM

1. First 5 Partiala
 - a. 300, 600, 900, 1200, 1500
 - b. 600, 1200, 1800, 2400, 3000
2. For what value of a:
 - a. $2(\sin x) = (\sin x) + (\sin x + 0) \Rightarrow 0 \pm 2\pi n$
 - b. $0 = 0 (\sin x) + (\sin x + \pi) \Rightarrow \pi \pm 2\pi n$
3. $h(t) = A \sin(-\omega t + \phi) = A \sin(-2\pi f t + \phi)$
 - a. $A \sin((\omega t + \phi) - \pi)$
 - b. Because it is just a phase shift, nothing would be perceived differently.
4. $f(\text{init})$
 - a. 1600 Hz.
 - b. $2^{(1/12)}$
 - c. $F = f(\text{init}) * 2^{(s/12)}$
5. Waves
 - a. Square Wave $A \frac{\sin(2\pi(1)ft)}{1}, A \frac{\sin(2\pi(3)ft)}{3}, A \frac{\sin(2\pi(5)ft)}{5}, A \frac{\sin(2\pi(7)ft)}{7}$
 - b. Triangle Wave $(-1)^1 \frac{A}{1^2} \sin(2\pi(1)ft), (-1)^2 \frac{A}{3^2} \sin(2\pi(3)ft), (-1)^3 \frac{A}{5^2} \sin(2\pi(5)ft), (-1)^4 \frac{A}{7^2} \sin(2\pi(7)ft)$
 - c. Sawtooth Shifted over .5, $\frac{A}{1} \sin((2\pi(1f)t) - .5), \frac{A}{2} \sin((2\pi(2f)t) - .5), \frac{A}{3} \sin((2\pi(3f)t) - .5), \frac{A}{4} \sin((2\pi(4f)t) - .5)$
6. Types of Waves
 - a. Sin
 - b. Sawtooth
 - c. Triangle
 - d. Square
 - e. Triangle
 - f. Triangle