

TUTORS: THIS IS A TAKE HOME QUIZ

Consider the functions $y_1 = 1 - \frac{\cos 2\pi x}{2!}$ and $y_2 = 1 - \frac{\cos 2\pi x}{2!} + \frac{\cos 4\pi x}{4!}$, which approximate a sawtooth wave. Follow the pattern in the terms and find 2 functions y_3 and y_4 which are better approximations.

(You may graph all these functions using your calculator, in order to test your answers. However, you will not be required to do so for the group quiz.)

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Consider the functions $y_1 = \sin \pi x - \frac{\sin 3\pi x}{3!}$ and $y_2 = \sin \pi x - \frac{\sin 3\pi x}{3!} + \frac{\sin 5\pi x}{5!}$, which approximate a sawtooth wave. Follow the pattern in the terms and find 2 functions y_3 and y_4 which are better approximations.

(You may graph all these functions using your calculator, in order to test your answers. However, you will not be required to do so for the group quiz.)

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In words, describe the behavior of the graph of $y = \cot x$ as x approaches π [a] from the left and [b] from the right. A graph of the function is **NOT** enough. You must describe it in words.

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In words, describe the behavior of the graph of $y = \sec x$ as x approaches $\frac{\pi}{2}$ [a] from the left and [b] from the right. A graph of the function is **NOT** enough. You must describe it in words.

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Sketch two full periods of the graph of $y = 2 \sec(2\pi x + \pi) + 3$.
Label the 3 y-coordinates and 9 x-coordinates discussed in class.

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Sketch two full periods of the graph of $y = 3 \csc(3\pi x + 2\pi) + 1$.
Label the 3 y-coordinates and 9 x-coordinates discussed in class.

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