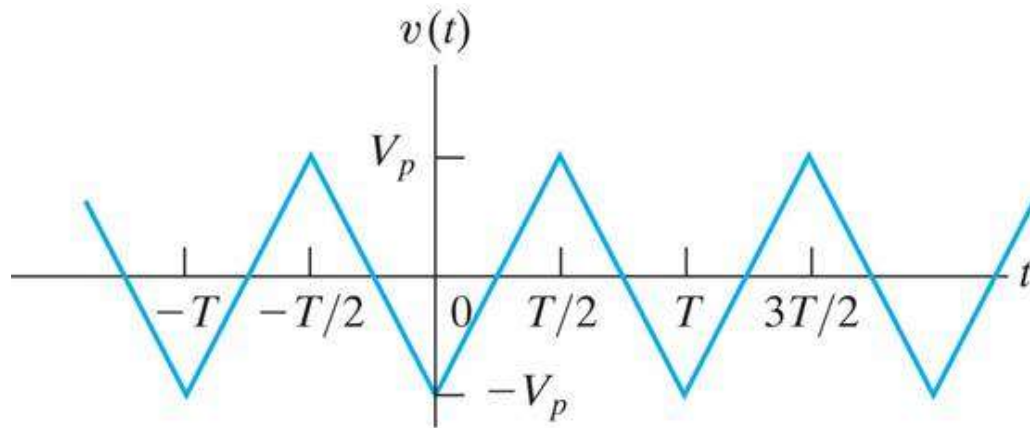


Started on Wednesday, 3 May 2017, 3:24 PM**State** Finished**Completed on** Wednesday, 3 May 2017, 4:30 PM**Time taken** 1 hour 5 mins**Overdue** 5 mins 43 secs**Grade** 100.00 out of 100.00**Question 1**

Correct

Mark 100.00 out of 100.00



Quiz 11b

Given: The Fourier coefficients for this waveform are

$$a_n = -8V_p / (n\pi)^2 \text{ Volts for } n \text{ odd} \quad b_n = 0 \quad V_p = 50 \text{ V} \quad T = 5 \text{ ms (milli sec)}$$

Write the following terms of this waveform's Fourier series.

a) What is the average value a_v ?

$$a_v = \boxed{0} \checkmark \text{ Volts}$$

Answer the next two questions in the order of magnitude, identify cosine or sine, and the frequency of the sinusoid in radians/sec.

b) Write the expression for $n = 1$.

$$v_1(t) = \boxed{-40.53} \checkmark \text{ Cosine } \checkmark (\boxed{1256.64} \checkmark \text{ t) Volts}$$

c) Write the expression for $n = 5$.

$$v_5(t) = \boxed{-1.62} \checkmark \text{ Cosine } \checkmark (\boxed{6283.9} \checkmark \text{ t) Volts}$$

Numeric Answer

$$a) a_v = 0 \text{ V}$$

$$b) v_1(t) = -40.5285 \cos(400 \pi t) = -40.5285 \cos(1,256.6371 t)$$

$$c) v_5(t) = -1.6211 \cos(5 \cdot 400 \pi t) = -1.6211 \cos(6,283.1853 t)$$

Correct

Marks for this submission: 100.00/100.00.

