

**CASE WESTERN RESERVE UNIVERSITY**  
Case School of Engineering  
Department of Electrical Engineering and Computer Science

**ENGR 210. Introduction to Circuits and Instruments (4)**

Quiz No. 8

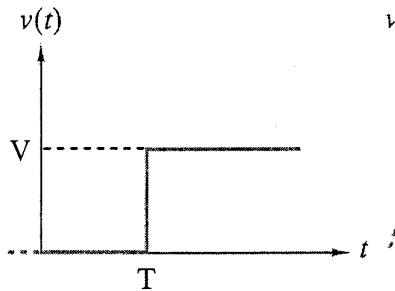
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Name (Section): Solutions

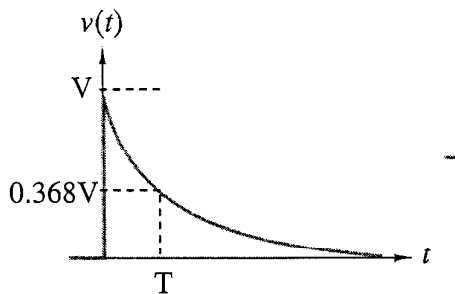
**PUT ANSWERS IN THE SPACE PROVIDED AND SHOW YOUR WORK**

**Problem 1 (10 points)**

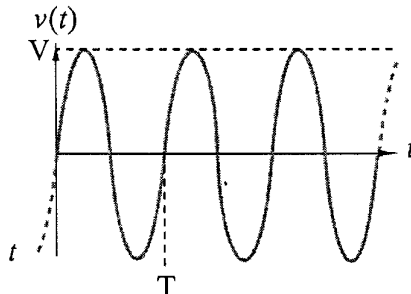
Write the mathematical expression that describes each of the following waveforms.



$$v(t) = V u(t - T)$$



$$v(t) = V e^{-\frac{t}{T}} u(t)$$

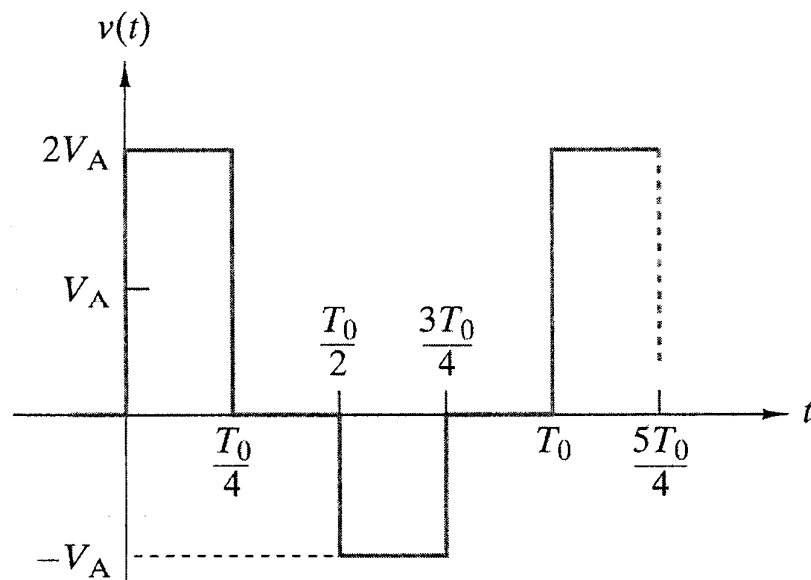


$$v(t) = V \sin\left(\frac{2\pi}{T} t\right)$$

(over)

**Problem 2** (10 points)

Calculate the partial waveform descriptors for the following *periodic* waveform. Complete the table.



DESCRIPTOR	VALUE
Frequency (Hz)	$\frac{1}{T_0}$
Peak value (Volts)	$2V_A$
Peak-to-peak value (Volts)	$3V_A$
Average value (Volts)	$\frac{V_A}{4}$
RMS value (Volts)	$\frac{\sqrt{5}}{2} V_A$

(over)