Student's Name:

Introduction to Circuit Analysis

Homework 10 – Sinusoidal Definition

Instructions:

- You have to show all work in order to receive full credit
- All answer must be in engineering notation rounded off to the hundredth

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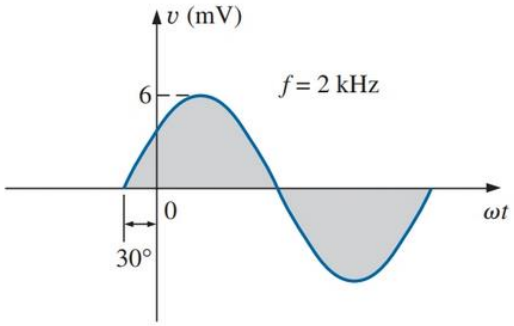
Question 1 through 4

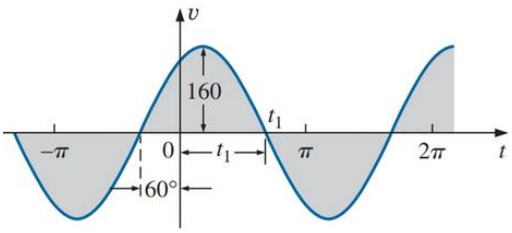
For the each following sinusoidal, find:

a. Peak value
b. Peak-peak value
c. rms value
d. phase angle
e. Period
f. Angular velocity
g. Write the analytical expression, equation, for the waveform

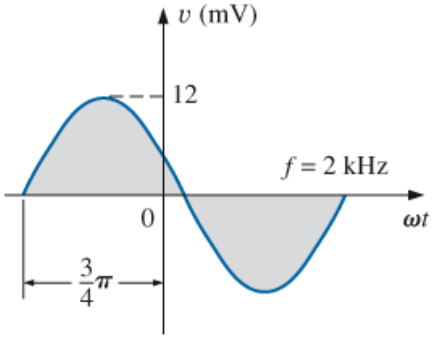
1) (13 pts)



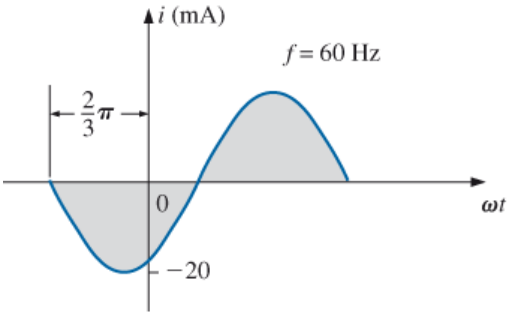
2) (13 pts)



3) (17 pts)



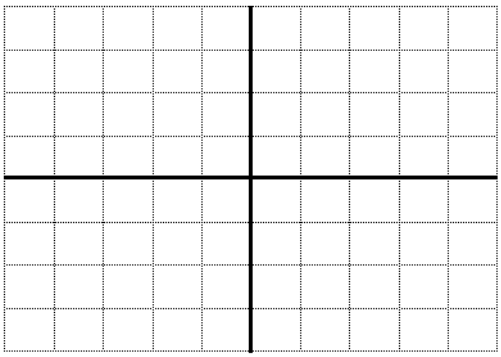
4) (17 pts)



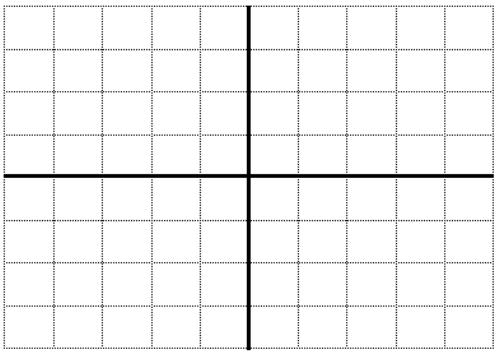
Question 5 and 6

Sketch the following sinusoidal with the amplitude (peak) value, the period, and the phase angle. (13 pts each)

5) $v(t) = 110\sin(120\pi\,\mathbf{t} + 80^0)$ V



6) $i(t) = 12\sin(2500\,\mathbf{t} - 130^0)$ mA



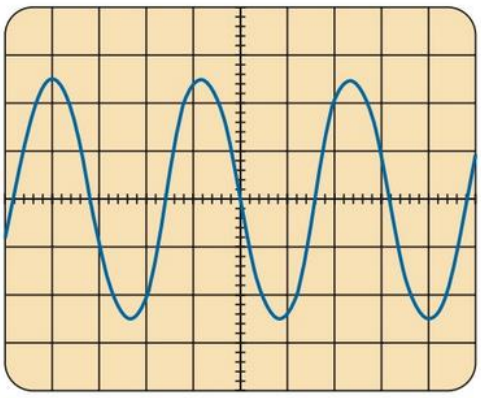
Question 7

For the following oscilloscope display and information (14 pts)

a. Peak voltage

b. Peak-peak voltage

c. rms value



Vertical sensitivity = 50 mV/div.
Horizontal sensitivity = 10 μs/div.

d. Period

e. Angular velocity

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