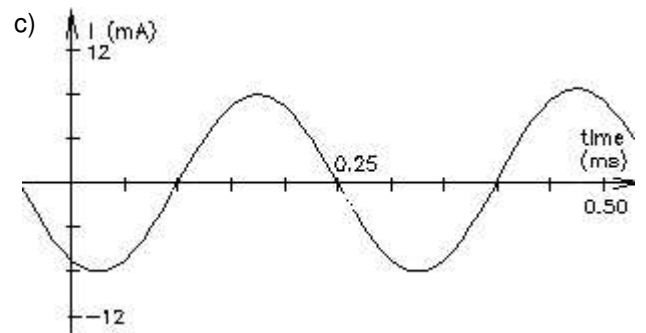
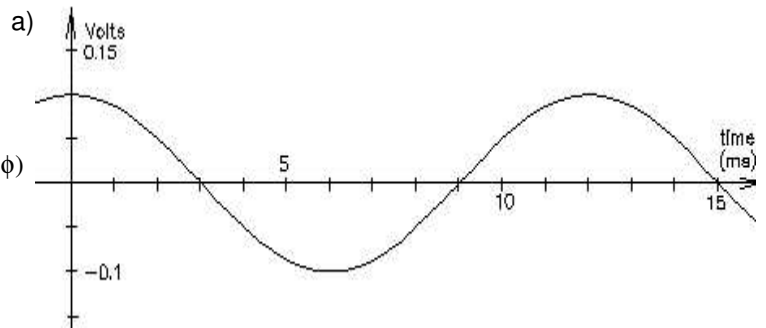
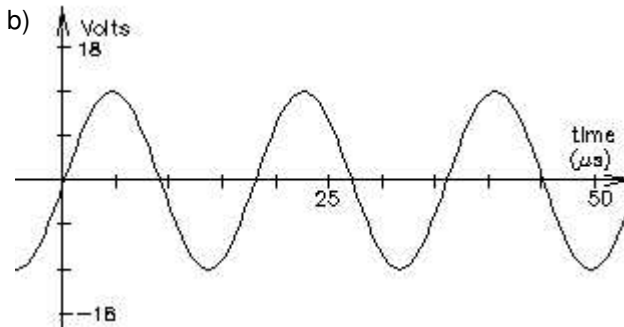


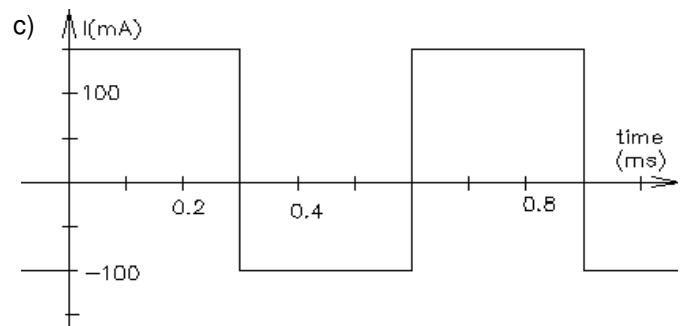
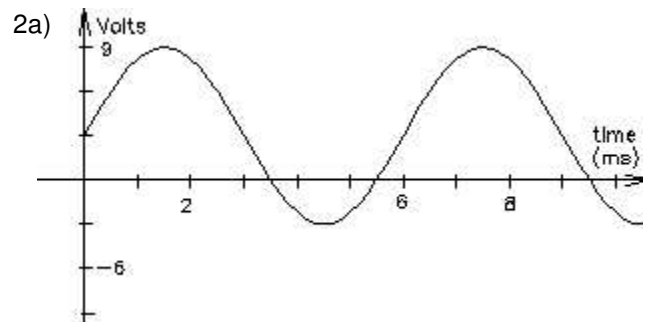
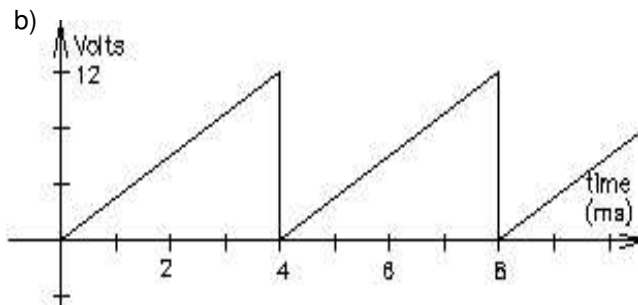
1st exam will include this material

Answer the following problems on your own paper.

1. For each of the following sinusoidal waves, find:
 - 1) Peak-to-peak voltage or current, V_{pp} or I_{pp}
 - 2) Amplitude, A , (V_p , or I_p)
 - 3) Period, T
 - 4) Frequency f in cycles/sec or Hz
 - 5) An expression for $v(t)$ or $i(t)$ in terms of $A\cos(\omega t + \phi)$
 (The frequency ω is in radians/sec
 the phase angle ϕ is in rad/sec or degrees)



2. For each of the following waveforms, find:
 - 1) Peak-to-peak voltage or current, V_{pp} or I_{pp}
 - 2) Average, (V_{DC} , I_{DC} , V_{ave} , or I_{ave})
 - 3) Period, T
 - 4) Frequency f in cycles/sec or Hz



3. For problem 2a above, write a full expression for $v(t)$ in terms of $v(t) = A\cos(\omega t + \phi) + V_{DC}$

Answers

1. a) 0.2-V 0.1-V 12-ms 83.3-Hz $0.1 \cdot V \cdot \cos(523.6 \cdot t)$
- b) 24-V 12-V 0.018-ms 55.6-kHz
 $v(t) := 12 \cdot V \cdot \cos(349100 \cdot t - 90 \cdot \text{deg})$
- c) 16-mA 8-mA 0.3-ms 3333-Hz
 $8 \cdot \text{mA} \cdot \cos(20940 \cdot t + 150 \cdot \text{deg})$

2. a) 12-V 3-V 6-ms 167-Hz
- b) 12-V 6-V 4-ms 250-Hz
- c) 250-mA 25-mA 0.6-ms 1.667-kHz

3. $v(t) := 6 \cdot V \cdot \cos(1047 \cdot t - 90 \cdot \text{deg}) + 3 \cdot V$