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AC Values Worksheet

WORKSHEET

AC VALUES

Solve the following conversion problems. Always include the unit of measurement, and the AC value, in your answer. For example: 10V p-p
(unit of measurement ↑, AC value ↑)

1.

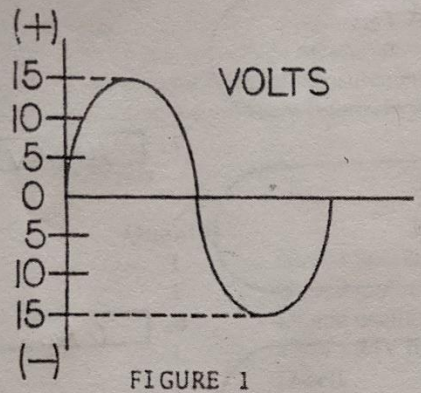

FIGURE 1

A. What is the peak to peak value of the sine wave in figure 1? 1A. 30V p-p

B. What is the peak value of sine wave 1? 1B. 15V PK

C. ~~Determine the average value of the sine wave.~~ 1C. ~~

D. Compute the effective value of the sine wave. 1D. 10.6V RMS

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2.

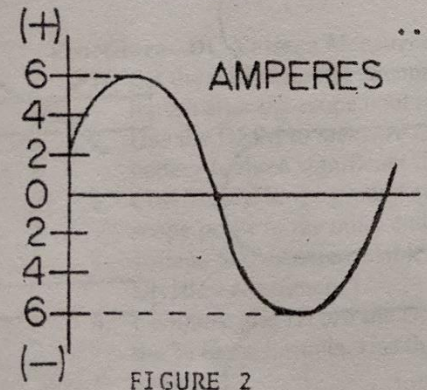

FIGURE 2

A. Determine the peak value of the sine wave in figure 2. 2A. 6V PK

B. ~~What is the average value of the sine wave?~~ 2B. ~~

C. Find the peak to peak value of sine wave 2. 2C. 12V p-p

D. Compute the RMS value of the wave. 2D. 4.24V RMS

3. V = $30V_{p-p}$--Convert to peak value. 3. 15V PK

Show work 30V/2 = 15V

4. V = $40V_{PK}$--Find the peak to peak value. 4. 80V p-p

Show work 40V x 2 = 80V p-p

5. I = $5A_{PK}$--Find the average value. 5. ~~[ ]~~

Show work ~~[ ]~~

6. I = $33mA_{PK}$--Convert to effective value. 6. [23.3mA rms]

Show work $33mA \times .707 = 23.3\,mA_{rms}$

7. V = $117V_{RMS}$--Solve for peak value. 7. [165.5V]

Show work $\frac{117V}{.707} = 165.5V$

8. I = $6A_{EFF}$--Find the RMS value. 8. [6A rms]

Show work $6A_{EFF} = 6A_{rms}$

9. V = $40mV_{p-p}$--Find the average value. 9. ~~[ ]~~

Show work ~~[ ]~~

10. I = $10A_{p-p}$--Find the effective value. 10. [$3.535V_{rms}$]

Show work

$10A_{p-p} = 5A_p = 5 \times .707 = 3.535V_{rms}$

11. V = $20V_{EFF}$--Convert to peak to peak value. 11. [$56.6V_{p-p}$]

Show work $\frac{20V}{.707} = 28.3V_{PK} \times 2 = 56.6V_{p-p}$

12. I = $7A_{EFF}$--Convert to average value. 12. ~~[ ]~~

Show work