

AC Values #3

1. Alternating current waveforms have a symmetrical shape. What is the name of this type of waveform?
2. What is the rms current through a 100 ohm resistor if the peak voltage is 170 volts?
3. A heater is rated @ 760 watts, what is its instantaneous current at 60 degrees if its peak voltage is 311 volts?
4. The first 180 degrees of electrical generation is referred to as the positive _____.
5. What is the instantaneous voltage generated 53 degrees into an AC voltage cycle if the rms voltage is 440 V?
6. How many electrical degrees does a wave travel in 2.5 cycles?
7. If the period of a wave is 10 msecs what is the frequency of the wave?
8. At what speed must a 32 pole alternator spin in order to generate 60 Hz?
9. How many mechanical degrees must a 4 pole alternator spin to produce 360 electrical degrees?
10. How many cycles does a 12 pole alternator spinning at 1500 rpm produce in 3 secs?

AC Values #3 (Answers)

1. Alternating current waveforms have a symmetrical shape. What is the name of this type of waveform? **Sine Wave**
2. What is the rms current through a 100 ohm resistor if the peak voltage is 170 volts? **1.2 Amps**
3. A heater is rated @ 760 watts, what is its instantaneous current at 60 degrees if its peak voltage is 311 volts? **4.2 Amps**
4. The first 180 degrees of electrical generation is referred to as the positive _____. **Alternation**
5. What is the instantaneous voltage generated 53 degrees into an AC voltage cycle if the rms voltage is 440 V? **496.7 Volts**
6. How many electrical degrees does a wave travel in 2.5 cycles? **900 degrees**
7. If the period of a wave is 10 msecs what is the frequency of the wave? **100 Hz**
8. At what speed must a 32 pole alternator spin in order to generate 60 Hz? **225 RPM**
9. How many mechanical degrees must a 4 pole alternator spin to produce 360 electrical degrees? **180 degrees**
10. How many cycles does a 12 pole alternator spinning at 1500 rpm produce in 3 secs? **450 cycles**