Phys219_2017 - Ryan Kaufmann/Exp. 0 (Intro to Lab Elect)/Prelab assignment Exp 0

SIGNED by Ryan Kaufmann Sep 11, 2017 @02:10 PM PDT

Rob Kiefl Sep 07, 2016 @10:18 AM PDT

The answers to your prelab questions for Exp 0 go here.

Ryan Kaufmann Sep 10, 2017 @02:45 PM PDT

A function generator with an internal resistance of 50 Ohms is set to provide a sinusoidal output signal with an amplitude of 1 volts at a frequency of 1kHz.

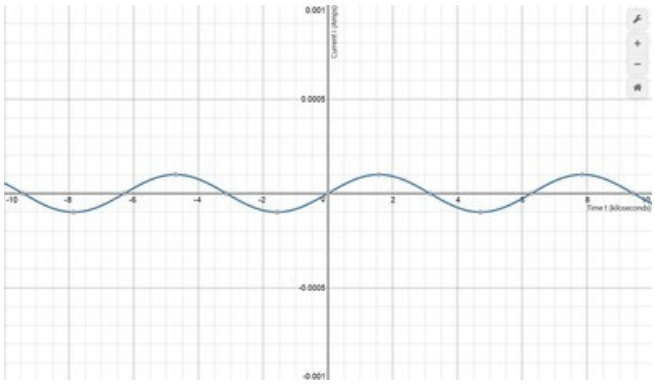
1. What is the angular frequency?

The angular frequency is equal to 2pi times the frequency. Thus the angular frequency is 2pi kiloradians per second, or 2000pi radians per second.

Ryan Kaufmann Sep 10, 2017 @06:07 PM PDT

2. A 10K Ohm resistor is then connected to the output of the function generator. Sketch the voltage drop across the resistor, current in the circuit, and the power dissipated in the resistor versus time. Include units on x and y axis.

Ryan Kaufmann Sep 10, 2017 @07:14 PM PDT



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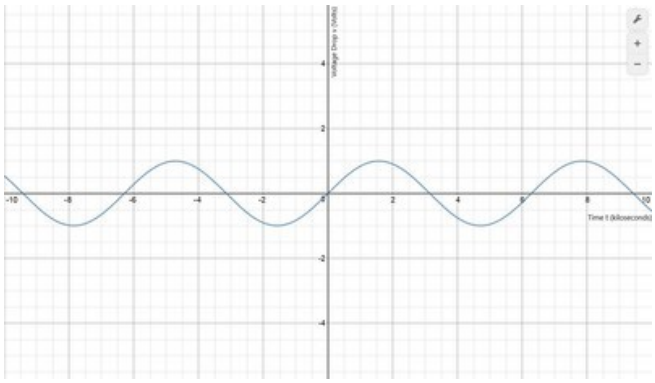
Ryan Kaufmann Sep 10, 2017 @07:14 PM PDT



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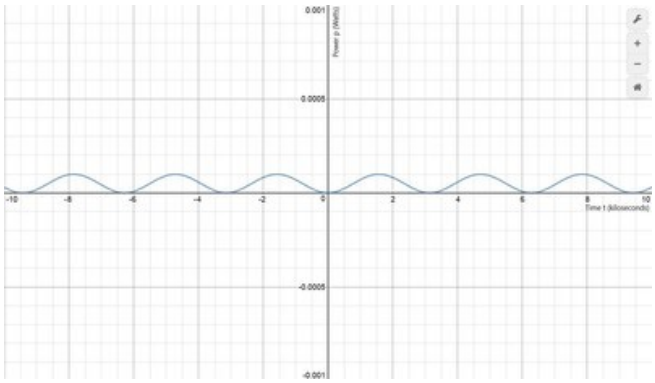
Ryan Kaufmann Sep 10, 2017 @07:14 PM PDT



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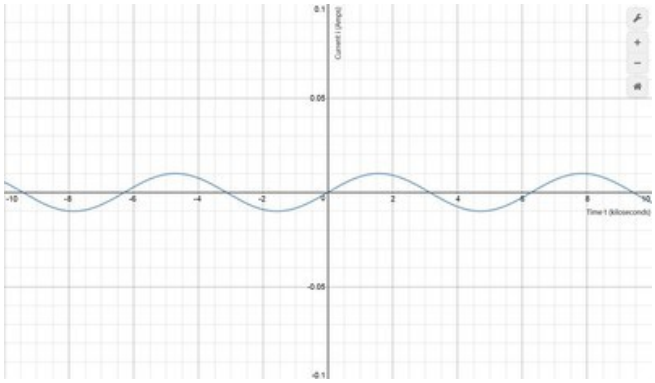
Ryan Kaufmann Sep 10, 2017 @07:21 PM PDT

3. The 10K Ohm resistor is then replaced with a 50 Ohm resistor. Redo the sketches.

Ryan Kaufmann Sep 10, 2017 @08:35 PM PDT



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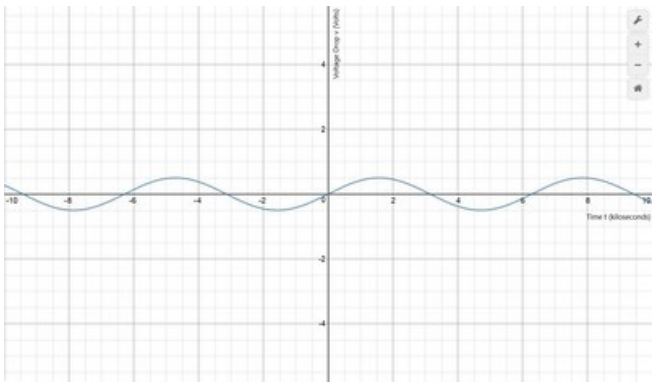
Ryan Kaufmann Sep 10, 2017 @08:35 PM PDT



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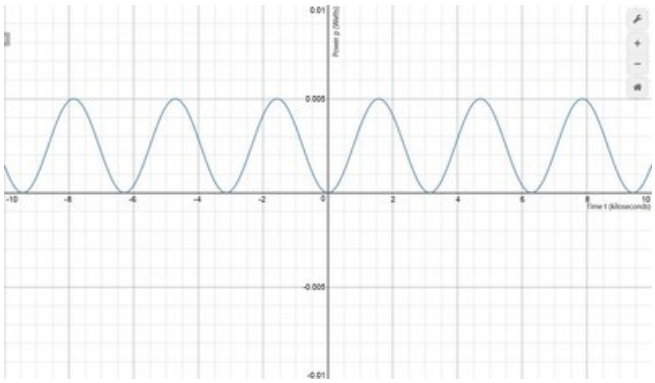
Ryan Kaufmann Sep 10, 2017 @08:35 PM PDT



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