Lab 6: The Impedance of Capacitors

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Part 1

Table 1: Impedance of a Capacitor										
C	R	V_{RC}	V_R	V/DIV for V_R	f_{gen}	f_{osc}	I_R	V_C	$X_{C,exp}$	$X_{X,the}$
$0.22\mu F$	1kΩ									
$0.33\mu F$	1kΩ									
$0.10\mu F$	1kΩ									
$0.47\mu F$	1kΩ									
$0.68\mu F$	1kΩ									
$1.00\mu F$	1kΩ									

Picture 1

Graph 1

Graph 2

Discussion 1

1. What slope do you find for graph 2 and how does it compare to your expectation?
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2. What does a deviation from the linear fit indicate? How would you correct for the ones with the largest error?
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