

Physics 2

10/26/23

Quiz 7

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a. 151Ω b. $4.8 V$ c. $0.62 V$

$$(440)(2\pi) = \frac{1}{R(2.4 \cdot 10^{-6})}$$

$$R = \frac{1}{(880\pi)(2.4 \cdot 10^{-6})}$$

$$R = 151 \Omega$$

$$V_c = \frac{(240\pi)(2.4 \cdot 10^{-6})}{\sqrt{151^2 + \frac{1}{(240\pi)^2(2.4 \cdot 10^{-6})^2}}}$$

$$= 4.8 V$$

$$V_c = \frac{(7000\pi)(2.4 \cdot 10^{-6})}{\sqrt{151^2 + \frac{1}{(7000\pi)^2(2.4 \cdot 10^{-6})^2}}} = 0.62 V$$