

Key to Practice exam test 2

1. A) velocity is into the page
B) Force is into the page (notice the charge is negative)
2. $B = 1.05\text{T}$ (direction dependent on diagram)
3. $B = 6.4 \times 10^{-7}\text{ T}$ into the page
4. $F = 0.3\text{N}$ up
5. Into page, CCW
6. $I = 160\text{A}$
7. $V_s = 36000\text{V}$, $I_s = 0.004\text{A}$
8. $C = 1.79 \times 10^{-12}\text{F}$
9. $I_{\text{rms}} = 0.204\text{A}$
 $V_{\text{rms,L}} = 154.2\text{V}$
 $V_{\text{rms,C}} = 54.12\text{V}$
 $\phi = 90^\circ$