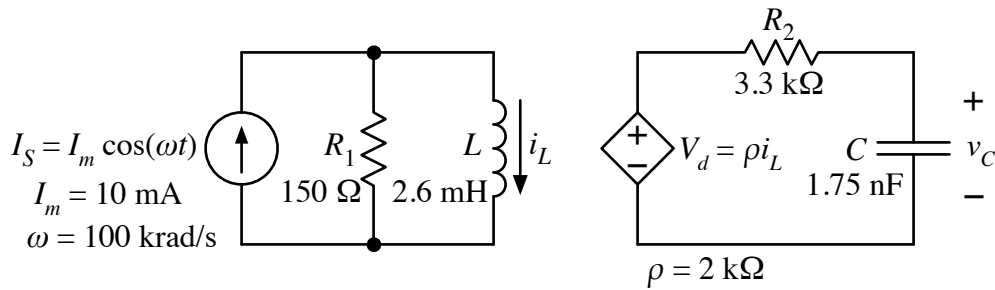Name_____

For the circuit shown below, calculate the complex amplitude of the capacitor voltage. Express the result in magnitude / phase form. (If you choose to use a source transformation, use care in keeping everything consistent.)

$I_S = I_m \cos(\omega t)$
$I_m = 10$ mA
$\omega = 100$ krad/s

R_1 = 150 Ω L = 2.6 mH i_L

R_2 = 3.3 kΩ

$V_d = \rho i_L$

C = 1.75 nF v_C

$\rho = 2$ kΩ

$\tilde{v}_C = $ _____