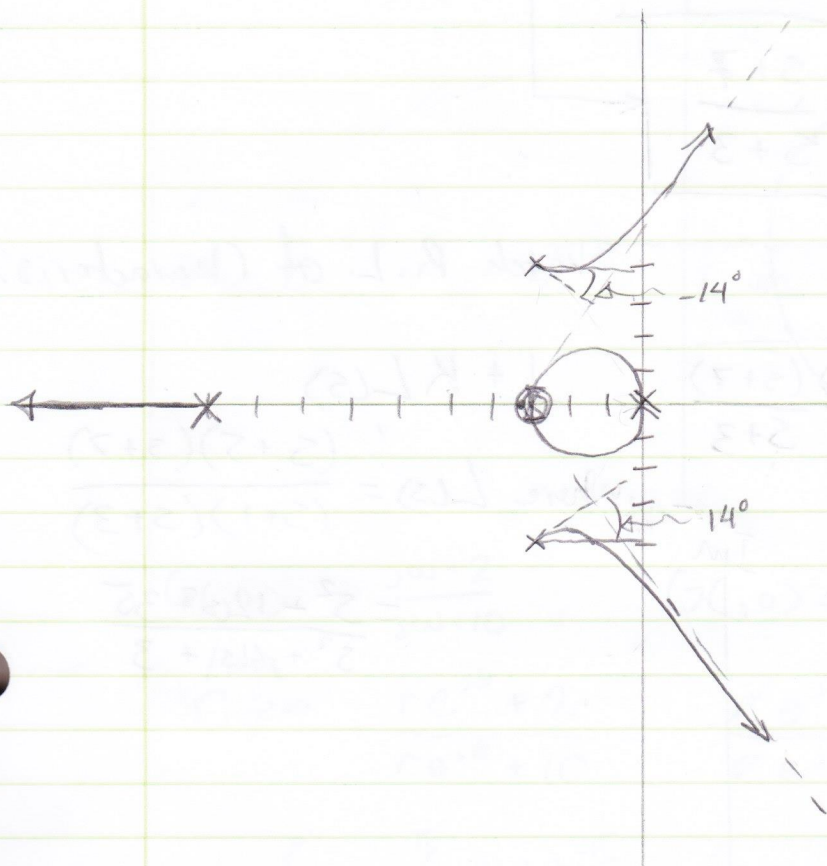


5.7 b)

$$L(s) = \frac{(s+3)^2}{s^2(s+10)(s^2+6s+25)}$$



$$\alpha = \frac{(0+0-10-3-3) - (-3-3)}{5-2} = \frac{-10}{3} = -3\frac{1}{3}$$

$$\phi_l = \frac{180 + 360(l-1)}{5-2} = 60^\circ + 120(l-1)$$

$$\phi_1 = 60^\circ \quad \phi_2 = 180^\circ \quad \phi_3 = 300^\circ$$

$$\phi_{\text{dep}(3+4j)} = (90 + 90) - (30 + 90 + 127 + 127) - 180 = -374^\circ = -14^\circ$$

$$\phi_{\text{dep}(0)} = (0 + 0) - (0 - 53 + 53) - 180 - 360(l-1)$$

$$\phi_{\text{dep}(0)1} = \frac{-180}{2} = -90^\circ$$

$$\phi_{\text{dep}(0)2} = \frac{-180 - 360}{2} = 90^\circ$$

$$\psi_{\text{arr}(-3)} = \frac{[(0 + 90 - 90 - 180 - 180) + (0) + 180 + 360(l-1)]}{9}$$

$$\psi_{\text{arr}(-3)1} = \frac{-360 + 180}{2} = -90^\circ \quad \psi_{\text{arr}(-3)2} = \frac{-360 + 180 + 360}{2} = 90^\circ$$