10.2.1.

1. $\tilde{\rho}_0(0) = \dfrac{z_1/z_0 - 1}{z_1/z_0 - 1} = \dfrac{z_{0/2} \cdot 1/z_0 - 1}{z_{0/2} \cdot 1/z_0 + 1} = -1/3$

2. $\tilde{\rho}_1(-\lambda/4) = 1 - 1/3 \, | \, e^{2j(2\pi/\lambda)(-\lambda/4)} = 1 - 1/3 \, | \, e^{-j\pi} = -1/3$

$z_0(-\lambda/4) = z_0\left(\dfrac{1 - \tilde{\rho}_0(-\lambda/4)}{1 + \tilde{\rho}_0(-\lambda/4)}\right) = z_0\left(\dfrac{1 - (-1/3)}{1 + (-1/3)}\right) = 2z_0$

10.2.2.

1. $\dfrac{z_1(0)}{z_0} = \dfrac{z_0}{2} \cdot \dfrac{1}{z_0} = \dfrac{1}{2} \rightarrow r = 1/2, \; x = 0$

2. $\tilde{\rho}_0(0) \simeq 0.333 = 1/3$ (point c)

3. $\tilde{\rho}_0(-\lambda/4) \simeq 2 = -1/3 \; \angle 180$ (point d)

4. $r = 2, \; x = 0$

5. $z(-\lambda/4) = z_0\left(\dfrac{1 - (-1/3)}{1 + (-1/3)}\right) = 2z_0$