Exercise 3.1.2

$\theta_1 = -0.2$, $\theta_2 = 0.48$

$\rho_0 = 1$

$$\rho_1 = \frac{\theta_1 + \theta_1 \theta_2}{1 + \theta_1^2 + \theta_2^2} = \frac{-0.296}{1.2704} = -0.2330$$

$$\rho_2 = \frac{\theta_2}{1 + \theta_1^2 + \theta_2^2} = \frac{0.48}{1.2704} = 0.3778$$

$\rho_3 = 0$

Exercise 3.1.3

$$\rho_k = \phi_1^{|k|}$$

$\rho_0 = 1$; $\rho_1 = (-0.7)^1 = -0.7$; $\rho_2 = (-0.7)^2 = 0.49$;

$\rho_3 = (-0.7)^3 = -0.343$; $\rho_4 = (-0.7)^4 = 0.2401$; $\rho_5 = (-0.7)^5 = -0.1681$

$\rho_6 = (-0.7)^6 = 0.1176$; $\rho_7 = (-0.7)^7 = -0.0824$; $\rho_8 = (-0.7)^8 = 0.0576$

$\rho_9 = (-0.7)^9 = -0.0404$; $\rho_{10} = (-0.7)^{10} = 0.0282$.