King **F**ahd **U**niversity for **P**etroleum and **M**inerals
Department of Mathematics & Statistics
Term 172 Quiz#3 (chap 4) STAT 460 (1)

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Q1. For the model $Y_t = 0.5Y_{t-1} + 0.4Y_{t-2} + \mathrm{e}_t$, answer the following:

a) Compute the general linear process coefficient ψ_3.
b) Write the characteristic polynomial for this model.
c) What are the conditions for stationarity for this model?

Q2. Consider the model $Y_t = -0.5e_{t-1} + \mathrm{e}_t + 0.4e_{t-2}$

a) Is the model invertible? Show why it is or why it is not?
b) Compute the autocorrelation function for this model.

Form