TS Module 5 Stationary moving average processes

(The attached PDF file has better formatting.)

Time series MA(2) process practice problems

*Question 5.1: Variance of moving average process

A moving average process of order 2 is $Y_t = e_t - \theta_1 e_{t-1} - \theta_2 e_{t-2}$, with $\sigma^2_e = 1$

What is γ_0, the variance of Y_t?

A. $1 - \theta_1 - \theta_2$
B. $1 - \theta^2_1 - \theta^2_2$
C. $1 - \theta_1 - \theta^2_2$
D. $1 + \theta_1 + \theta_2$
E. $1 + \theta^2_1 + \theta^2_2$

Answer 5.1: E

Y_t is the sum of three independent random variables

(See Cryer and Chan page 62, equation at bottom of page)