Code:

clear all;

close all;

A = [1.01 0.99;0.99 0.98];

x = 0;

b = randn(2,10000); % generates a 2x10 matrix with randn values.

for i = 1:10000

e(:,i) = inv(A)\*b(:,i);

e2(i) = (e(1,i)^2 + e(2,i)^2);

x = x + e2(i);

end

average = x/10000;

MATLAB output for ‘average’: (run 3 times since randn function operates randomly each time.)   
41687.5607682919  
42041.6250830076  
418330898.607051  
  
This is almost the same for the (f) part. Thus, verified.