Test N°03

Name:………………………………………………………………………..

Exercice 01 :

For each input-output relationship given below, determine whether the corresponding discrete system is:

– dynamic or static;

– causal, anti-causal or non-causal;

– linear or not;

– varying or invariant.

a- $y[n] = u[-n]$

b- $y[n] = u[n-2]-2u[n-8]$

Exercice 02 :

Determine the inverse z transforms of the function

$$X(Z) = \frac{Z}{2Z^2\text{-}3Z + 1}$$

Exercice N°3 :

Let the FIR filter be described by its difference equation:

$$y(n) = x(n) + x(n - 4)$$

$$y(k) = \frac{1}{2}e(k) + \frac{1}{2}e(k - 1)$$

Calculate and represent the module and the phase of its spectrum