

## PROBLEM:

Let  $x[n]$  be the complex exponential

$$x[n] = 7e^{j(0.22\pi n - \pi)}$$

If we define a new signal  $y[n]$  to be the output of the difference equation:

$$y[n] = x[n] - 2x[n - 1] + x[n - 2]$$

it is possible to express  $y[n]$  in the form

$$y[n] = Ae^{j(\omega_0 n + \phi)}$$

Determine the numerical values of  $A$ ,  $\phi$  and  $\omega_0$ .