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, ϕ and ω_0.