PROBLEM:

A linear time-invariant system has system function

$$H(z) = (1 + z^{-1})(1 - z^{-1}) = 1 - z^{-2}$$

The input to this system is

$$x[n] = 5 - 4\delta[n] + 10\cos(0.5\pi n + \pi/4)$$

Determine the output of the system $y[n]$ corresponding to the above input $x[n]$. Give an equation for $y[n]$ that is valid for all n.