$$y(n) = -1/2X\left(n-2\right) + X\left(n-1\right) - 1/2X\left(n\right)$$
$$Y\left(e^{j\omega}\right) = -1/2e^{-2j\omega}X\left(e^{j\omega}\right) + e^{-jw}X\left(e^{jw}\right) - 1/2X\left(e^{j\omega}\right)$$
$$Y\left(e^{j\omega}\right)) = X\left(e^{j\omega}\right)\left(-1/2e^{-2j\omega} + e^{-j\omega} - 1/2\right)$$
$$H\left(e^{j\omega}\right) = -1/2e^{-2j\omega} + e^{-j\omega} - 1/2$$