To hear and view this Pencast PDF on your computer,
click here to get the latest version of Adobe® Reader®

EG-247

$$y[n] - 0.5\,y[n-1] + 0.125\,y[n-2] = x[n] + x[n-1]$$

a). $$Y(z) - 0.5z^{-1}Y(z) + 0.125z^{-2}Y(z) = X(z) + z^{-1}X(z)$$

$$(1 - 0.5z^{-1} + 0.125z^{-2})Y(z) = (1 + z^{-1})X(z)$$

$$\frac{Y(z)}{X(z)} = \frac{1 + z^{-1}}{1 - 0.5z^{-1} + 0.125z^{-2}}$$

$$= \frac{z^2 + z}{z^2 - 0.5z + 0.125}$$