Examples using:

$$\frac{\mathbf{z}_1}{\mathbf{z}_2} = \frac{x_1 + jy_1}{x_2 + jy_2} = \frac{(x_1 + jy_1)}{(x_2 + jy_2)} \cdot \frac{(x_2 - jy_2)}{(x_2 - jy_2)}$$

$$= \frac{(x_1 x_2 + y_1 y_2) + j(x_2 y_1 - x_1 y_2)}{x_2^2 + y_2^2},$$

$$\frac{5}{2 + j3\omega} = \frac{5(2 - j3\omega)}{(2 + j3\omega)(2 - j3\omega)}$$

$x_1 = 5 \ y_1 = 0$

$x_2 = 2 \ y_2 = j3\omega$

$$\frac{10 - j15\omega}{4 + 9\omega^2}$$

$$\frac{6j\omega}{1 + j5\omega} = \frac{6j\omega(1 - j5\omega)}{(1 + j5\omega)(1 - j5\omega)}$$

$x_1 = 0 \ y_1 = 6\omega$

$x_2 = 1 \ y_2 = 5\omega$

$$\frac{30\omega^2 + j6\omega}{1 + 25\omega^2}$$