**EXERCISE A.2:** The inverse or reciprocal of a complex number z is the number  $z^{-1}$  such that

$$z^{-1}z = 1.$$

A common mistake with the inverse is to invert z = x + jy by taking the inverse of x and y separately. To show that this is wrong, take the specific case where z = 4 + j3 and  $w = \frac{1}{4} + j\frac{1}{3}$ . Show that w is not the inverse of z, because  $wz \neq 1$ . Determine the correct inverse of z.

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