

a+biab

$$xyx = 1, y = 1x = 0, y = 1x = -1, y = 1x = -1, y = 0$$

$$5 + 3i - 4 + 5i$$

$$\begin{split} z &= a + bi = c + a = d + b1 + 1iz = 0z = 1z = iz = 1 - 1iz = -1 + 1i\\ (a + c) + (b + d)iz &= a + biw = c + di\\ z &= 1 + 1iw = 0w = 1w = iw = 1 - 1iw = -1 + 1i\\ &= -\\ i\\ a + bi \end{split}$$