Equality of Two Complex Numbers.

Two complex numbers $z_1 = x_1 + iy_1$ and $z_2 = x_2 + iy_2$ are said to be equal if and only if their real parts and imaginary parts are separately equal.

i.e., $z_1 = z_2 \Rightarrow x_1 + iy_1 = x_2 + iy_2 \Leftrightarrow x_1 = x_2$ and $y_1 = y_2$.

Thus, one complex equation is equivalent to two real equations.

Note: A complex number $z = x + iy = 0$ iff $x = 0, y = 0$.

❑The complex number do not possess the property of order i.e., $(a + ib) < (or) > (c + id)$ is not defined.

For example, the statement $9 + 6i > 3 + 2i$ makes no sense.