$$= \frac{-2 + [-12-4]i + 16 + [8-6]i}{20}$$

$$= \frac{14 - 14i}{20}$$

$$= \frac{7}{10} - \frac{7}{10}i$$

Lec 3

Functions of a Complex Variable.

In the same way that we have functions of a real variable, we can have functions of a complex variable.

As $z = x + iy$ $\quad x, y \in \mathbb{R}$, $i = \sqrt{-1}$

z involves the imaginary unit i.

then we can have i included in the function defination.

Eg

$$f(z) = \frac{ie^{iz}}{(z^2 - 2iz)^2}$$

Note 1 : All complex expressions can be expressed in the form

$$u(x,y) + i\,v(x,y)$$

i.e. a real function plus i times another real function

(Recall, we said that numerical complex expressions can be written as

$x + iy \quad x, y \in \mathbb{R}$)