

Complex Integral

(Introduction)

$$z = x + iy$$

\downarrow
 \mathbb{R}

\downarrow
 \mathbb{I}

$$f(z) = u + iv$$

$$f'(z) = \frac{1}{(z-1)}$$

$$\int_a^b f(x) dx$$

\downarrow
 \mathbb{R}

\downarrow
 $\mathbb{R.M}$

\downarrow
 \mathbb{R}

or

$$\int_a^b f(y) dy$$

\downarrow
 \mathbb{R}

\downarrow
 \mathbb{R}

$$\int_a^b f(z) dz$$

\downarrow
 \mathbb{R}

\downarrow
 \mathbb{R}

$$z = x + iy$$

$$dz = dx + i dy$$

$$\int_a^b f(z) dz$$

\downarrow \downarrow \downarrow
 $R+iI$ $R+iI$ $R+iI$

Complex Integral.

$$z = x + iy$$

$$dz = dx + i dy$$

