

$$Y_1' = 2t + i \neq 0 \quad \checkmark$$

$$Y_2' = i e^{it} \neq 0 \quad \checkmark$$

2A

Y_1 and Y_2 are differentiable, continuous, on their domains and never equal to zero, hence are both smooth. \checkmark

1M

iv) Since f is conformal, the size and orientation of the said angle is preserved under f . \checkmark
 \therefore angle between $f(\gamma_1)$ and $f(\gamma_2)$ is the same as that between γ_1 and γ_2 , which

is given by

$$\Theta = \arg \left(\frac{Y_2'}{Y_1'} \right) = \arg \left(\frac{Y_2'(\phi_T)}{Y_1'(\phi_T)} \right)$$

$$= \arg \left(i e^{i\pi} \right) = \arg(e^{i\pi}) = \pi. \quad \checkmark$$

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