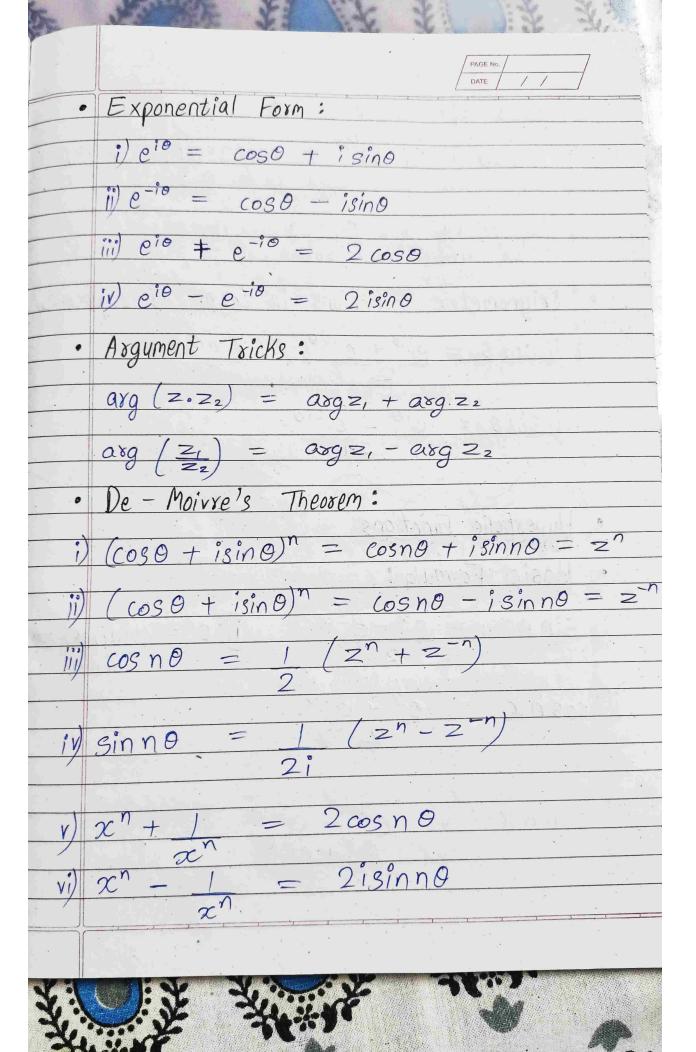
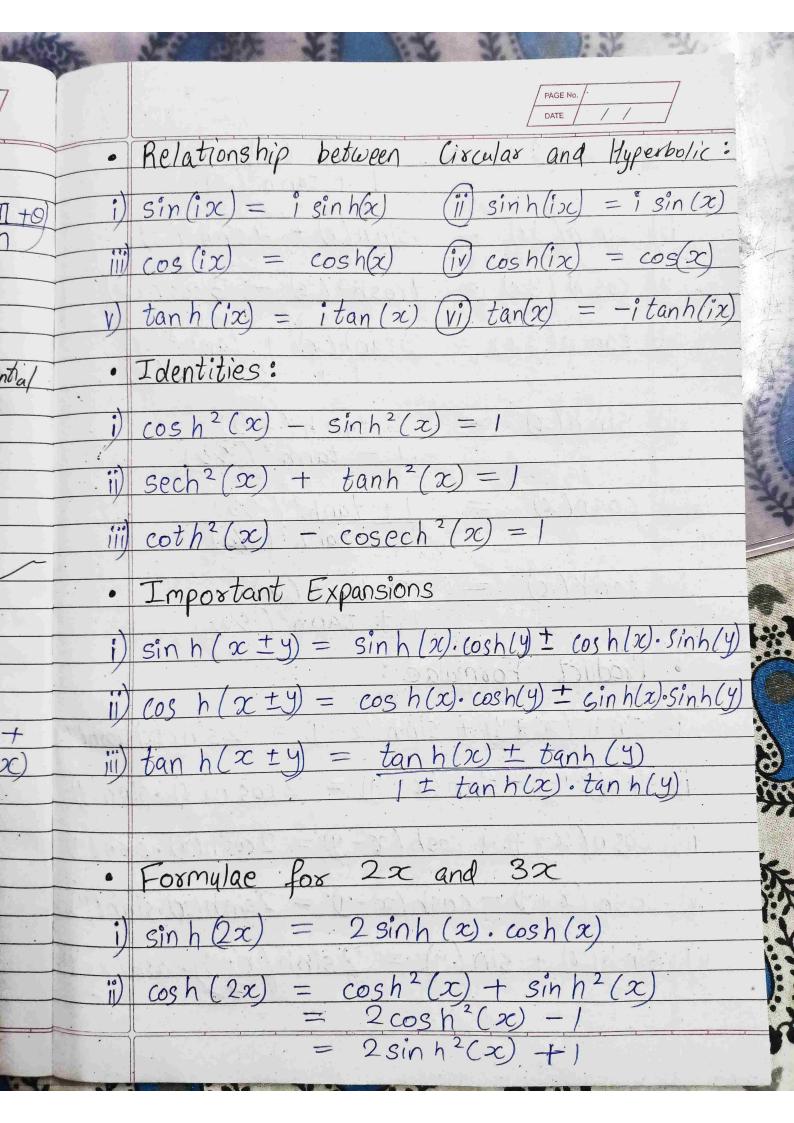
	Complex Module Formulas	j)
	Forms of Complex Number;	((
		,
	$z = x + iy$ \rightarrow Cartesion Form	
	Z = x [cos0 + isin0] -> Polax Form.	
*	$Z = 8e^{i\theta}$ $\rightarrow Exponential Form$	
,	Short cuts:	. (
		. 0
n 20	$i) z \cdot \overline{z} = x^2 + y^2$	<i>i</i>)
	$i)z + \overline{z} = 2Re(z)$	
	$ iii $ $z - \overline{z} = 2i \text{ Im}(z)$	[1]
		111)
	Modulus & Axgument:	3,)
	i) Modulus = $ z = \delta = \sqrt{x^2 + y^2}$	iy
	ii) Argument = $\Theta = tan^{-1}/y$	
	(41)	Y)
	$= tan^{-1}/Im(z)$ $(Re(z))$	vi)
	(116(2))	





 $2 \tanh(\alpha)$ Vi) iii) tanh (2 xc) = $+ \tanh^2(x)$ $3\sinh(x) + 4\sinh^3(x)$ Vii) $\sin h/3\alpha$ $4\cosh^3(x) - 3\cosh(x)$ cos h (3x) $3 \tanh(x) + \tanh^3(x)$ tan h(3x)+ 3 tanh? (2C) Vii) Sin h(x) $\frac{2 \tanh (x/2)}{1 - \tanh^2(x/2)}$ viii) cosh(x) + tanh2 (x/2) tanh 2 (2/2) ix) tanh(x)2 tanh (sc) + tanh2(2/2) Product Formulae: iv $sin h(x+y) + sin h(x-y) = 2 sin h(x) \cdot (osh(y))$ ii) $sinh(x+y) - sinh(x-y) = 2cosh(x) \cdot sinh(y)$ iii) $\cosh(x+y) + \cosh(x-y) = 2\cosh(x) \cdot \cosh(y)$ iv) $\cosh(x+y) - \cosh(x-y) = 2\sinh(n\theta) \cdot \sinh(y)$ V) $sinh(x) + sin(y) = 2sinh(x+y) \cdot cosh(x+y)$

vi) sinh(x) - sinh(y) = .2 cosh(x+y) - cosh(x-y) $\cosh(x) + \cosh(y) = 2\cosh(x+y) \cdot \cosh(x-y)$ viii) $\cosh(x) - \cosh(y) = 2\sinh(\alpha + y) \cdot \sinh(\alpha - y)$ Differentiation and Integration Formula $\frac{d(\sinh(x)) = \cosh(x)}{dx}$ $\frac{d(\cosh(x)) = \sinh(x)}{dx}$ 111) $d(tanh(x)) = sech^2(x)$ dx $\cosh(x) \cdot dx = \sinh(x)$ sinh(x).dx = cosh(x) $sech^{2}(x) \cdot dx = tanh(x)$

	PAGE No. DATE / /
•	Inverse Hyperbolic Functions ;
	$\sinh^{-1}(z) = \log(z + \sqrt{z^2 + 1})$
	$\cosh^{-1}(z) = \log(z + \sqrt{z^2 - 1})$
	$tanh^{-1}(z) = \frac{1}{2} \frac{\log(1+z)}{(1-z)}$
•	Inverse Hyperbolic ke Integration
	$\int \frac{dx}{\sqrt{x^2 + a^2}} = \frac{\sinh^{-1}/\alpha}{a}$
	$\int \frac{dx}{\sqrt{x^2 - a^2}} = \cosh^{-1}\left(\frac{x}{a}\right)$
	$\int \frac{d\alpha}{a^2 - x^2} = \frac{1 \tanh^{-1}/\alpha}{a}$
	Dillorantistica ka k
	Differentiation ke lige isko ulta Kro (waise Kam nahi ayga)
	(30 30 11917 17917 49ga)

