Tutorial-2 1. Show that the function $f(z) = z\overline{z}$ does not satisfy the Carchy-Riemann equations (except at the erigin). What about z. Re(t) 8 z. Im(t). 2. Show that if f: C -> C Takes on only real values (or only purely imaginary values) it annot be holomorphis on C unless it is a constant. On a non constant holomorphie function take on values along a given line in C?

3. Show that if f(t) is a holomorphic

function on an open set I & If(2)

is constant then f(z) is constant.

4. Determine the great & imaginary parts

of the following functions:

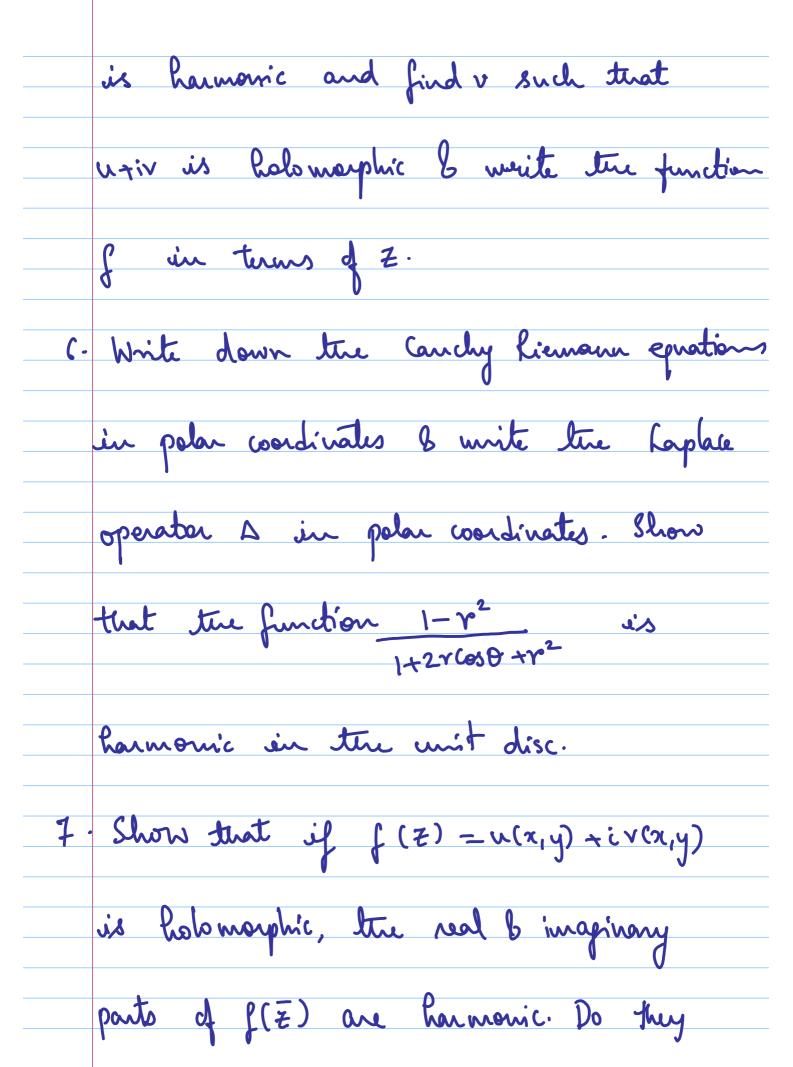
(i) 1+Z (ii) Z+Z¹.

Verify the Cauchy Riemann equations in

each case (except where the denominators

vanish).

5. Show that the function $u = \frac{x^2 + y^2 - 1}{x^2 + y^2 + 1 - 2x}$



	satisfy	the	Cauchy-	Riemann	. epra	tions
Q .	Find	tre	Pranmon	vic conj	veat	A
		70000		J		
	~	<u> </u>				
	e cosy	te'c	osz + zvy	•		
	U		V			