

## Re: Complex numbers (for geometry proof)

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Fons a écrit :

What would be a short and straightforward way to prove that

$$|z-z_1| / |z-z_2| = a$$

(in which  $z_1$  and  $z_2$  are complex and  $a$  is real and independent of  $z$ ) implies the existence of a complex number  $z_0$  and a real number  $R$  (also independent of  $z$ ) so that

$$|z-z_0| = R$$

maybe without having to calculate  $z_0$  and  $R$ ?

Short and straightforward? i dont know. I would either write some equations (and note that the resuting relation between real and imaginary parts of  $z$  is that of a circkle), or use the geometrical interpretation, getting what is known as "Leibniz problem"

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