Personal Skills 1

Guidance document 13

The n root of a complex number in polar form.

<u>Learning outcomes</u> Find the n root of a complex number when $n \in I^+$, and Solve polynomial equations of one variable with integer coefficients of degree less than or equal to three.

<u>Intended destination</u> Find the n root of a complex number polar complex.

Name .... Class. ....No.......................

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Find the n root of complex numbers in polar form.

No	Problem	$x_k=\sqrt[n]{r}\left[\cos\left(\frac{\theta+360^\circ k}{n}\right)+i\sin\left(\frac{\theta+360^0 k}{n}\right)\right]$	Answer
1	TheCube root of i	x_k= x_0= x_1= x_2=	
2	The fourth root of -4	x_k= x_0= x_1= x_2= x_3=	
3	The square root of $-2+2\sqrt{3}i$	x_k= x_0= x_1=	
4	The fourth root of $16(\cos\frac{4\pi}{3}+i\sin\frac{4\pi}{3})$	x_k= x_0= x_1= x_2= x_3=	

Summary score

Score 17 points made .... points

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