Trigonometry And Matrices : Applications Of De Moivre's Theorem

Primitive Roots of Unity

A Complex number z is Called a primitive nth root of unity iff n is the least positive integer s.t. $Z^n = 1$.

$$(-1)^2 = -1 + i \cdot 0$$

 $(-1)^2 = 1$ $[n=2]$

$$(i) = 0 + i$$

$$(i)' = i$$

$$i^{2} = -1$$

$$i^{3} = i \cdot i^{2} = i(-1) = -i$$

$$i^{4} = (i^{2})' = (-1)^{2} = 1$$

