QUESTION

If θ is the real number between 0 and $\pi/2$ such that $\tan\theta = 4/3$ find the real and imaginary parts of the complex number $(3+4i)^{3+4i}$, expressing your answer in terms of θ.

ANSWER

Real part is $\sin 1 \cosh 1$, Imaginary part is $\cos 1 \sinh 1$.