

PHYSICS 404 –Fall 2019
2nd HOMEWORK
Prof. V. Lempesis

Hand in: Sunday 6th of October 2019

1. Express the polynomial $P_2^2(x)$ and also find its form if $x = \cos\theta$. (6 marks)
2. Find $P_1^1(x)$ and verify that is a solution of the associated Legendre equation. (8 marks)
3. Construct the spherical harmonic $Y_1^{-1}(\theta, \phi)$ and show that it is normalized. (6 marks)

Prof. Vasileios Lempesis