# HW assignment 3

Due Thu Feb 12 at the lecture.

**Problem 1**.

The wave function of a particle in a certain spherically symmetrical potential $V(r)$ is

$$\psi(\vec{r}) = (x + y + 3z)f(r)$$

Is $\psi$ an eigenfunction of $\vec{L}^2$? If som what is the value of $l$. If not, what possible values of $l$ we may obtain when $\vec{L}^2$ is measured?

**Problem 2**.

Problem 14.5.3 from the Shahkar textbook.