

Physics 451- Fall 2012

Homework #6

Due Tuesday, Sep 18, by 7pm

Please place your assignment in the “Physics 451” slot across from N373 ESC.
We will have help sessions twice a week, in N337 ESC (undergraduate lab):
T Th from 4 to 6 pm

List of problems (from the textbook):

2.10

2.11

2.12

2.13

2.14

Hints:

Useful integrals:

$$\int_{-\infty}^{\infty} e^{-\alpha u^2} du = \sqrt{\frac{\pi}{\alpha}}$$

$$\int_{-\infty}^{\infty} u e^{-\alpha u^2} du = 0$$

$$\int_{-\infty}^{\infty} u^2 e^{-\alpha u^2} du = \frac{1}{2\alpha} \sqrt{\frac{\pi}{\alpha}}$$

$$\int_{-\infty}^{\infty} u^3 e^{-\alpha u^2} du = 0$$

$$\int_{-\infty}^{\infty} u^4 e^{-\alpha u^2} du = \frac{3}{4\alpha^2} \sqrt{\frac{\pi}{\alpha}}$$