

## Homework 6:

1. Textbook 2.14,
2. Textbook 2.17
3. Textbook 2.19
4. Textbook 2.21
5. Based upon we discussed in the class about the spreading of wave packet with time, determine precisely how the wave packet corresponding to free particle, with an initial Gaussian packet [  $\phi(k) = \left(\frac{a^2}{2\pi}\right)^{1/4} \exp\left(-\frac{a^2(k-k_0)^2}{4}\right)$  where  $a$  and  $k$  are constants], spreads in time.