

MST 352/652

Homework #12

Due Date: April 23, 2019

1 Problems for everyone

1. pg. 273-274, #7.1.1-7.1.4, #7.1.12, #7.1.15
2. Compute $\mathcal{F}[xe^{-ax^2}](k)$, where $a > 0$ is a constant.
3. Given that $\mathcal{F}[xe^{-|x|}](k) = -\frac{4ik}{(1+k^2)^2}$, find $\mathcal{F}\left[\frac{x}{(1+x^2)^2}\right](k)$.
4. pg. 277-278, #7.2.1, #7.2.8-7.2.9.
5. pg. 280-281, #7.3.4-7.3.5, #7.3.7.
6. pg. 283-384, #7.3.10-7.3.12

2 Graduate Problems

1. pg. 273-274, #7.1.8, #7.1.19
2. pg. 283-384, #7.3.13, #7.3.20