1. **Determine the Fourier transform of the following signals:**

   a. $f(t) = \frac{1}{t^2+9}$

   b. $f(t) = 5te^{-2t}\cos(t)\ \mathrm{u(t)}$

   c. $f(t) = e^{-t} \cdot \mathrm{u}(t-2)$

   d. $f(t) = \sin(\pi t)/t$

   e. $f(t) = \cos(t-2)$

2. **Determine the inverse Fourier transform of the following signals:**

   a. $F(j\Omega) = \frac{\sin(2\Omega)}{\Omega}$

   b. $F(j\Omega) = e^{-|\Omega|}$

   c. $F(j\Omega) = e^{-j2\Omega}$

   d. $F(j\Omega) = e^{-j\Omega+3}$

- *Assigned*: Sunday June 21, 2015
- *Deadline*: Thursday June 25, 2015