



# COLLEGE OF ENGINEERING & TECHNOLOGY

**Department** : Electronics & Communications Engineering  
**Lecturer** : Dr. Mohamed Essam Khedr  
**T. Assistant** : Eng. Ammar Mottie Alhosainy  
**Course** : Spectral Analysis  
**Course Code** : EC321

## Sheet 3

1. Find the Fourier transform F.T. for the following signals using F.T. properties, then find the area of each function.

a.  $g(t) = A \text{rect}\left(\frac{at}{T}\right)$

b.  $g(t) = A \text{sinc}(2Wt)$

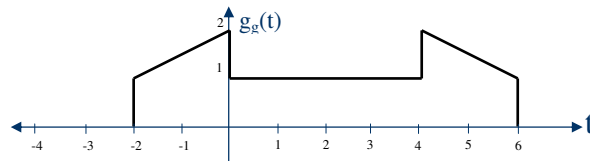
c.  $g(t) = A \text{rect}\left(\frac{t-t_0}{T}\right)$

d.  $g(t) = A e^{-a|t-t_0|}$

e.  $g(t) = A e^{j2\pi f_0 t} \text{rect}\left(\frac{t}{T}\right)$

f.  $g(t) = A e^{j2\pi f_0 t} e^{-a|t|}$

g.  $g_g(t)$



h.  $g_h(t)$  using results of g.

