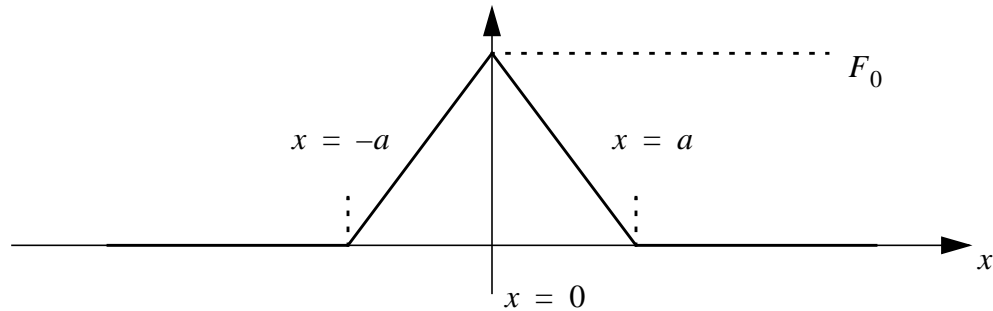


Homework Assignment Due Thursday, Sept. 24

This exercise concerns the Fourier Transform of the following function $F(x)$:



- Before calculating the Fourier Transform itself, estimate the “width” of the transform function $A(k)$ in k space.
- Calculate the Fourier Transform function $A(k)$.
- Plot $A(k)$. (A sketch by hand is okay.) Label important features such as zeros and maxima. How does the fall-off in k differ from the Fourier transform of the square pulse, which we did in class? That is, is it sharper, less sharp, or about the same?
- Estimate the width of $A(k)$. Does it agree with your estimate in (a)?