

**Problem 18)**  $f(x) = \text{Rect}(x/4) + \text{Tri}(x) \rightarrow F(s) = 4 \text{sinc}(4s) + \text{sinc}^2(s).$

$$g(x) = \text{Rect}(x/2) - 2 \text{Tri}(x) \rightarrow G(s) = 2 \text{sinc}(2s) - 2 \text{sinc}^2(s).$$

In the above derivations, we have used the scaling property of Fourier transformation, as well as the fact that the Fourier transform of  $\text{Rect}(x)$  is  $\text{sinc}(s)$ , while that of  $\text{Tri}(x)$  is  $\text{sinc}^2(s)$ .

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