Concept Question 13-12: What is a sinc function, and what are its primary properties? Why is sinc(0) = 1?

$$\operatorname{sinc}(x) = \frac{\sin x}{x}$$

$$|\mathbf{F}(\omega)|$$

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$$|\mathbf{Spectrum}|$$

$$|\mathbf{Spectrum}|$$

$$|\mathbf{Spectrum}|$$

$$|\mathbf{Spectrum}|$$

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$$|\mathbf{Spectrum}|$$

$$|\mathbf{Spectrum}|$$

 -4π

 -2π

 -6π

As we approach t = 0, both x and sin(x) approach zero, but their ratio approaches 1.

 4π

 6π

 2π