|--|

 $\textbf{Directions:} \ \ \textbf{Show ALL} \ \ \textbf{work for credit}; \ \ \textbf{Give EXACT} \ \ \textbf{answers when possible}; \ \ \textbf{SIMPLIFY} \ \ \textbf{your answers};$

1. Half-range expansions: Find (a) the Fourier cosine series and (b) the Fourier sine series for

$$f(x) = 1 \quad (0 < x < 5)$$

Sketch the two f(x) 10-periodic extensions.