



## PROBLEM:

An amplitude modulated (AM) cosine wave is represented by the formula

$$x(t) = [10 + \cos(2\pi(2000)t)] \cos(2\pi(10^4)t)$$

Sketch the two-sided spectrum of this signal to determine the maximum frequency and also the minimum sampling rate  $f_s$  such that  $x(t)$  can be reconstructed from its samples.

McClellan, Schafer and Yoder, *Signal Processing First*, ISBN 0-13-065562-7.

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