PROBLEM:

Consider the signal

x(t)

 $x(t) = [10 + 20\sin(500\pi t)]\cos(1500\pi t)$

Recall the AM spectrum from a previous homework set.

(b) Is this waveform periodic? If so, what is the period?



Ideal

C-to-D

Converter



x[n]



Ideal

D-to-C

Converter



(c) What is the minimum sampling rate
$$f_s$$
 that can be used in the following system so that $y(t) = x(t)$?

y(t)

$$y(t) = x(t)$$

(0	Skatch the	two sided	enactrum of	this signal	Ra cura to	label im	portant featui	es of the nl	ot Hint
(a	i) Sketch the	two-sided	speculum or	uns signai.	be sure to	label IIII	portant reatur	es of the pr	οι. <i>πιπι</i> .