PROBLEM:

The two-sided spectrum of a signal $x(t)$ is given in the following table:

frequency (ω)	complex phasor
-150π	X_{-2}
-90π	$3e^{j\pi/4}$
0	5
ω_1	X_1
150π	$1 + \sqrt{3}j$

(a) If $x(t)$ is a real signal, what are X_1, X_{-2}, and ω_1?

(b) Write an expression for $x(t)$ involving only real numbers and cosine functions.