

PROBLEM:

Four different sinusoidal signals are defined by the following representations:

(a) $x_a(t) = 6e^{-j\pi/3}e^{j46\pi t} + 6e^{j\pi/3}e^{-j46\pi t}$

(b) $x_b(t) = 6 \cos(46\pi t + 5\pi/3)$

(c) $x_c(t) = \Re\{(3 + j3\sqrt{3})e^{j2\pi(23)t}\}$

(d) $x_d(t) = 12 \cos(2\pi(23)t + \pi/3)$

For each of the following signals, pick one of the representations above that defines an identical signal.

Write your answer ((a),(b),(c),(d)) in the box next to each signal.

Ans=	$3e^{j\pi/3}e^{-j46\pi t} + 3e^{-j\pi/3}e^{j46\pi t}$
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Ans=	$\Re\{12e^{j\pi/3}e^{j46\pi t}\}$
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Ans=	$12 \cos(2\pi(23)t - \pi/3)$
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Ans=	$\Re\{12e^{-j\pi/3}e^{j2\pi(23)t}\}$
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Ans=	$6 \cos(2\pi(23)t - \pi/3)$
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Ans=	$3(e^{j\pi/3}e^{j46\pi t} + e^{-j\pi/3}e^{-j46\pi t})$
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