What is $|2 + i|$?

A. 1
B. $\sqrt{3}$
C. 5
D. $\sqrt{5}$
E. Something else!

What is $(1+i)^2/(1-i)$?

A. $e^{i\pi/4}$

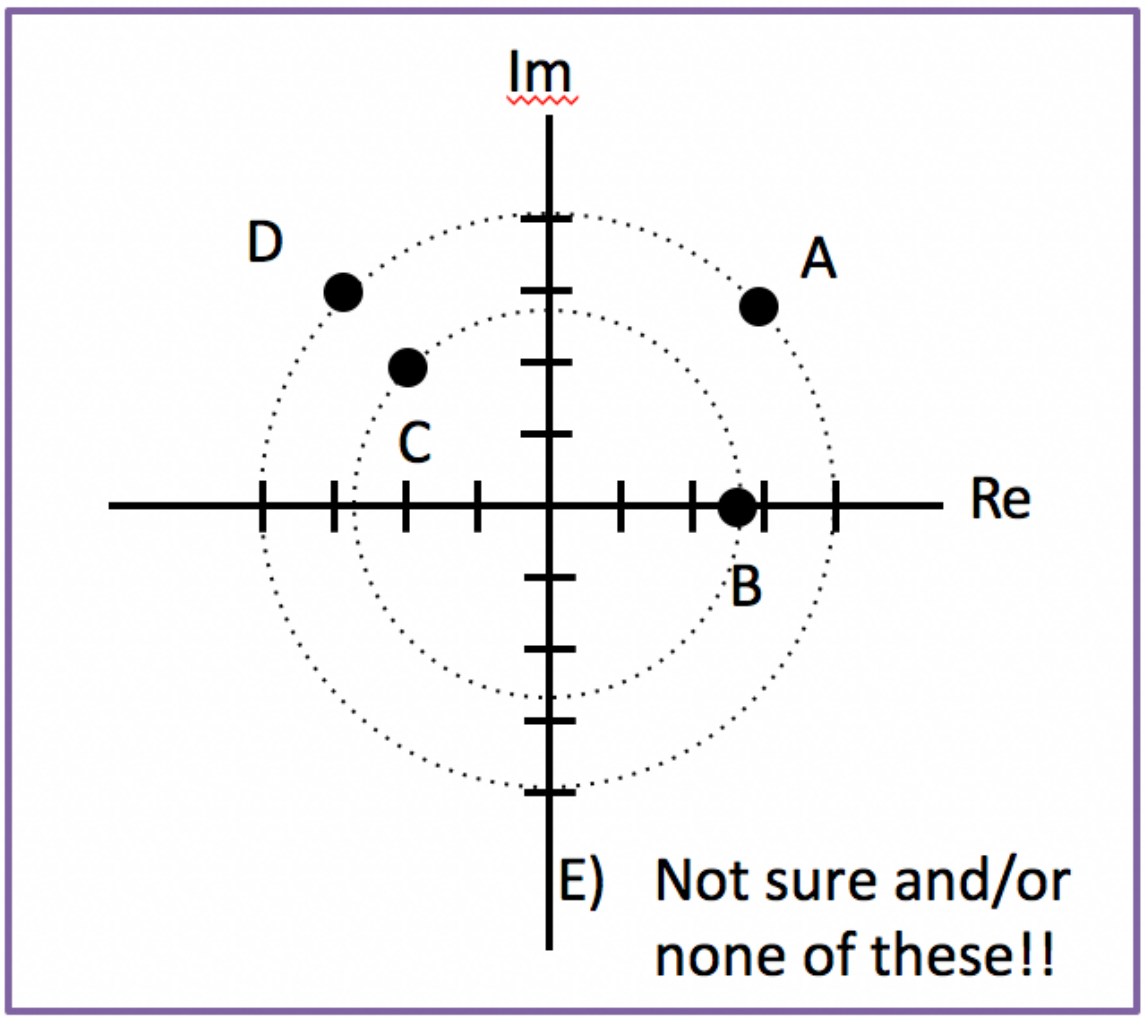
B. $\sqrt{2}e^{i\pi/4}$

C. $e^{i3\pi/4}$

D. $\sqrt{2}e^{i3\pi/4}$

E. Something else!

Which point below best represents $4e^{i3\pi/4}$ on the complex plane?



What is $Re\left[\frac{e^{i\omega t}}{1+i}\right]$?

A. $\frac{1}{\sqrt{2}}\cos(\omega t + \pi/4)$

B. $\frac{1}{\sqrt{2}}\cos(\omega t - \pi/4)$

C. $\frac{1}{2}\cos(\omega t + \pi/4)$

D. $\frac{1}{2}\cos(\omega t - \pi/4)$

E. Something else

A resistor (R) and an inductor (L) are in parallel. What is the effective impedance, Z_{eff} across these elements?

A. $R + L$

B. $R + i\omega L$

C. $1/(R + i\omega L)$

D. $\dfrac{1}{1/R - i/(\omega L)}$

E. Something else?

What is the total impedance of this circuit, Z_{total}?

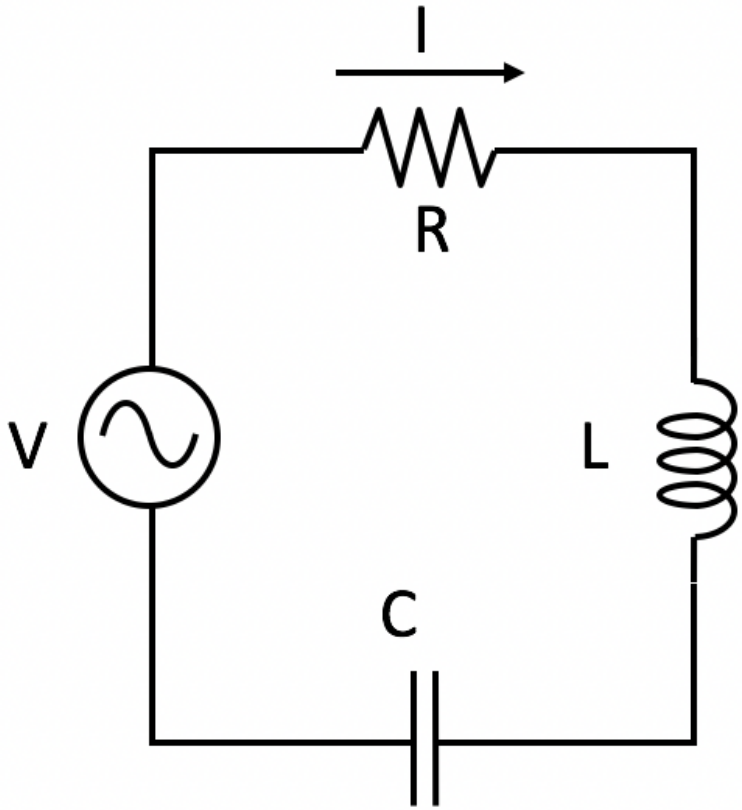
A. $R + i\left(\omega L + \frac{1}{\omega C}\right)$

B. $R + i\left(\omega L - \frac{1}{\omega C}\right)$

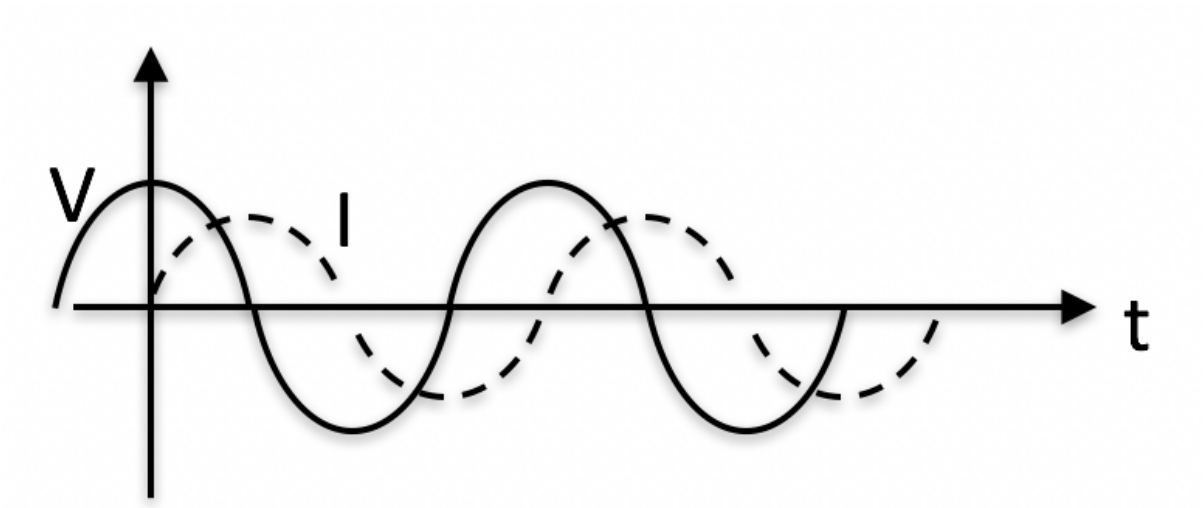
C. $\frac{1}{R} + \frac{1}{i\omega L} + i\omega C$

D. $\frac{1}{\frac{1}{R} + \frac{1}{i\omega L} + i\omega C}$

E. None of these



AC voltage V and current I vs time t are as shown:



The graph shows that..

A. I leads V (I peaks before V peaks)
B. I lags V (I peaks after V peaks)
C. Neither