1. Find the phasors corresponding to the given voltages and currents. \textit{HINT:} Convert all time expressions to a cosine base (no “minus” signs in front). Express in polar form. No “\(\omega t\)” should be shown. Just magnitude and phase.
   (a) \(i(t) = 4 \sin(5t - 25^\circ)\) A  
   (b) \(v(t) = -12 \cos(100t + 35^\circ)\) V  
   (c) \(i(t) = -50 \sin(1000t - 45^\circ)\) mA  
   (d) \(v(t) = 120 \cos(377t + 85^\circ)\) V 

2. Convert the following expressions to phasors, perform the math, and then convert each back to a single time-domain cosine.
   (a) \(i(t) = 3 \cos(5t - 25^\circ) + 4 \cos(5t + 90^\circ)\) A  
   (b) \(v(t) = 40 \sin(377t + 45^\circ) + 30 \sin(377t - 45^\circ)\) V  
   (c) \(i(t) = 100 \cos(1000t + 30^\circ) - 200 \sin(1000t - 60^\circ)\) mA 

3. Given that \(z_1 = 10 + j8\), \(z_2 = 6 - j4\), and \(z_3 = 6 \angle 40^\circ\), express the following in both polar and rectangular form. \textit{Use your calculators!}
   (a) \(x_a = z_1 + z_2 + z_3\) ;  
   (b) \(x_b = z_1 z_2 z_3\) ;  
   (c) \(x_c = \frac{z_1^*}{z_2(z_3^*)}\)