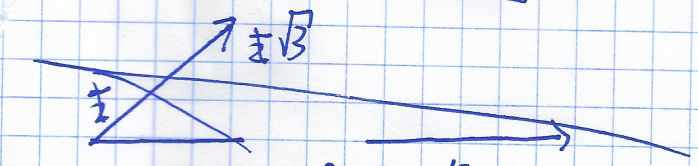
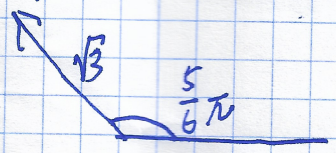
$x(t) = 2\cos(\omega t + \frac{5}{6}\pi)$

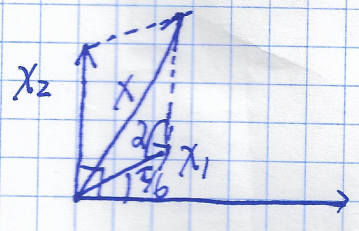


1. $x(t) = 2\cos(\omega t + \frac{5}{6}\pi)$



2. 合 $= x_1 = \cos(\pi t + \pi/6)$

$x_2 = 2\cos(\pi t + \pi/2)$



$\angle 2 = \frac{2\pi - (\frac{\pi}{2} - \frac{\pi}{6})\times 2}{2}$

$= \pi - \frac{\pi}{2} + \frac{\pi}{6}$

$= \frac{2}{3}\pi$

$\tan\varphi = \frac{2 + \frac{1}{2}}{\frac{\sqrt{3}}{2}} = \frac{r}{\sqrt{3}}$

$\varphi \approx 71°$

$x = \sqrt{x_1^2 + x_2^2 - 2|x_1||x_2|\cos 2}$

$= \sqrt{1 + 4 - 2\times 1\times 2\times -\frac{1}{2}} = \sqrt{7} \approx 2.65$ cm