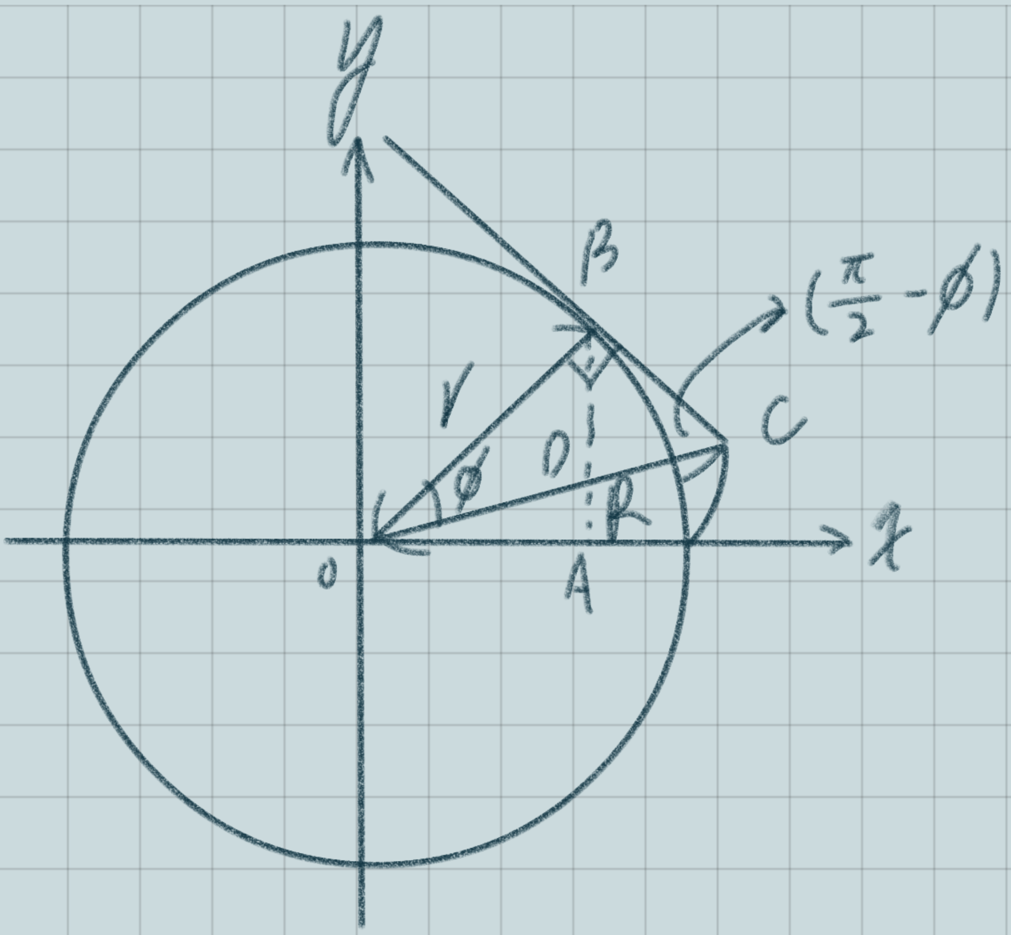

$\overline{OB} = r$ $\overline{OA} : r\cos\phi$ $\overline{BA} = r\sin\phi$

$\overline{BC} : r\theta$ $\overline{DC} = r\phi\cos(\frac{\pi}{2}-\phi)$ $\overline{BD} = r\phi\sin(\frac{\pi}{2}-\phi)$

$$x = r\cos\phi + r\phi\cos(\frac{\pi}{2}-\phi)$$

$$= r(\cos\phi + \phi\cos(\frac{\pi}{2}-\phi)$$

$$= r(\cos\phi + \sin\phi)$$

$$y = r\sin\phi - r\phi$$

$$= r(\sin\phi - \phi\sin(\frac{\pi}{2}-\phi))$$

$$= r(\sin\phi - \phi\cos\phi)$$

$$\boxed{\begin{aligned} x &= r(\cos\phi + \phi\sin\phi) \\ y &= r(\sin\phi - \phi\cos\phi) \end{aligned}}$$