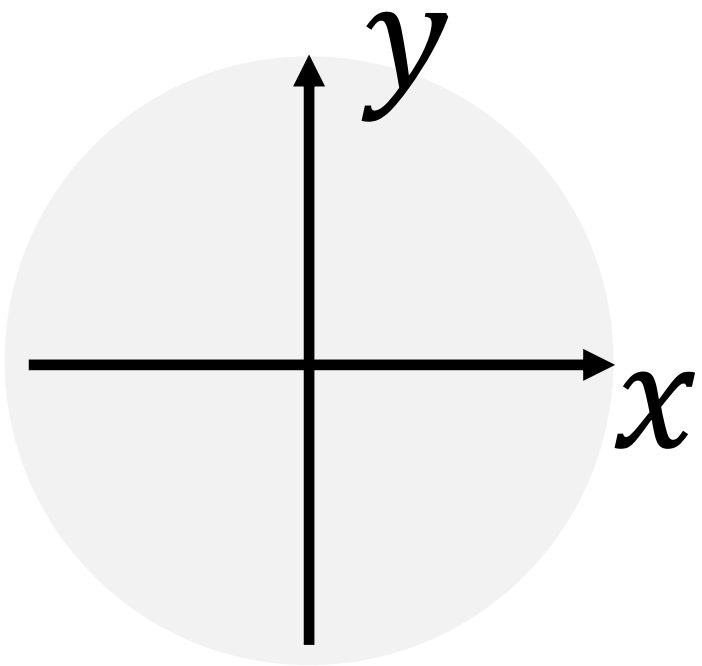
Exercise: Draw the wave overtime in the XY plane for these Jones Vectors:

(answers in description)



(a) $\begin{bmatrix} 1 \\ ½ \end{bmatrix}$

(b) $\begin{bmatrix} 2 \\ 1 \end{bmatrix}$

(c) $\begin{bmatrix} i \\ 1 \end{bmatrix}$

(d) $\begin{bmatrix} -1 \\ i \end{bmatrix}$

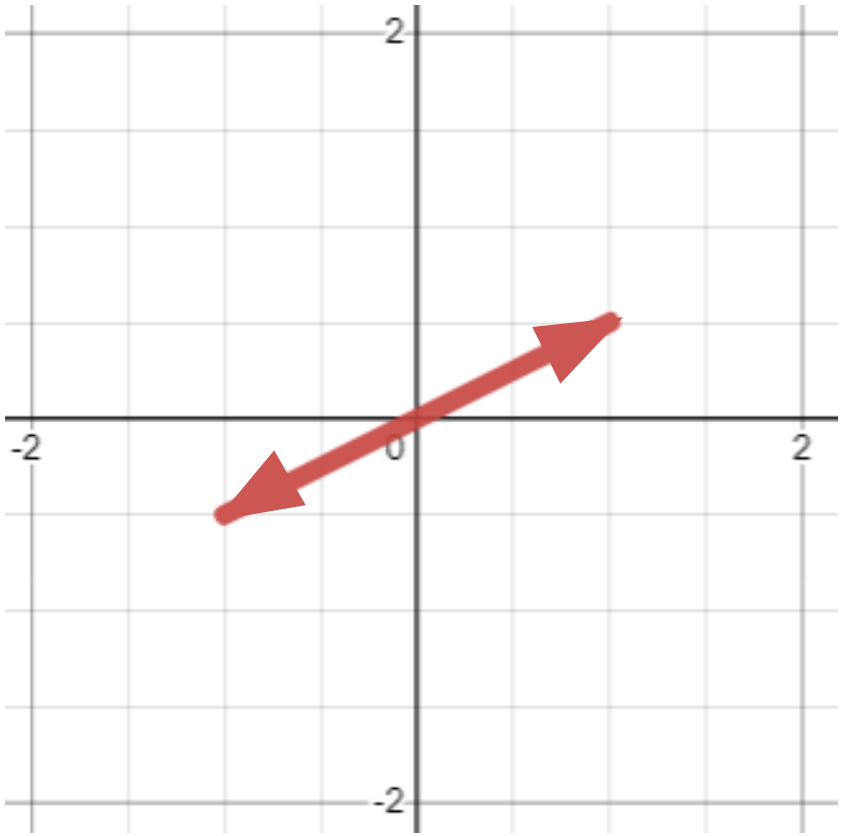
(e) $\begin{bmatrix} 1 \\ e^{i\frac{\pi}{4}} \end{bmatrix}$

(f) $\begin{bmatrix} e^{i\frac{\pi}{4}} \\ e^{i\frac{\pi}{2}} \end{bmatrix}$

(a) $\begin{bmatrix} 1 \\ ½ \end{bmatrix}$

$\left(\cos(t), \frac{1}{2}\cos(t)\right)$

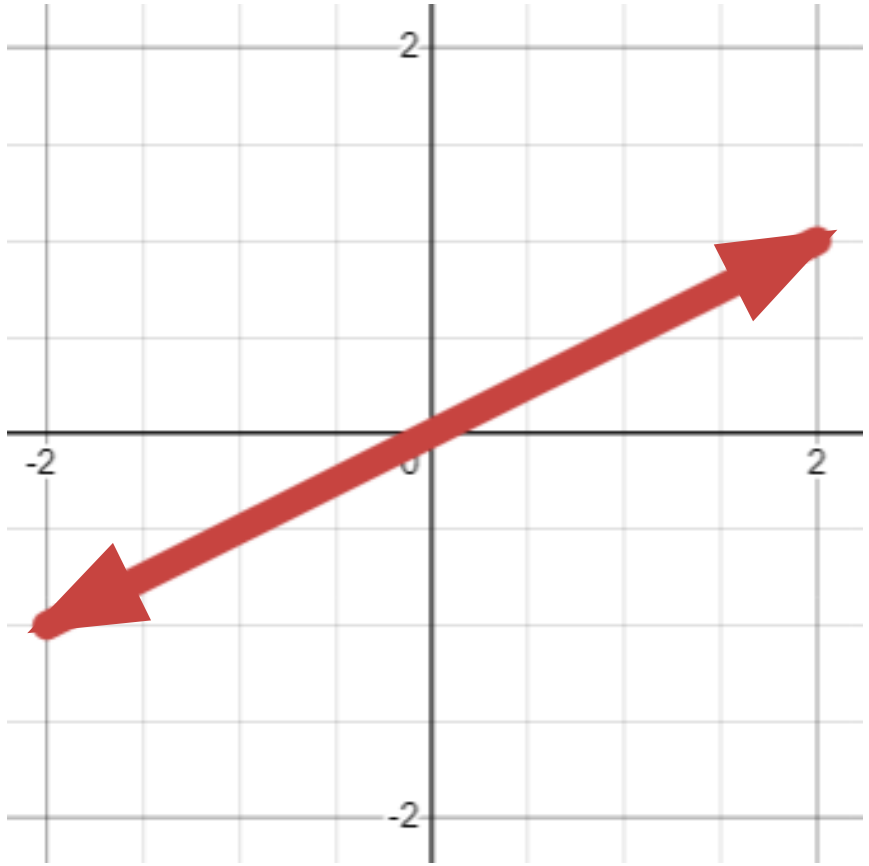
$0 \leq t \leq 2\pi$



(b) $\begin{bmatrix} 2 \\ 1 \end{bmatrix}$

$\left(2\cos(t), \cos(t)\right)$

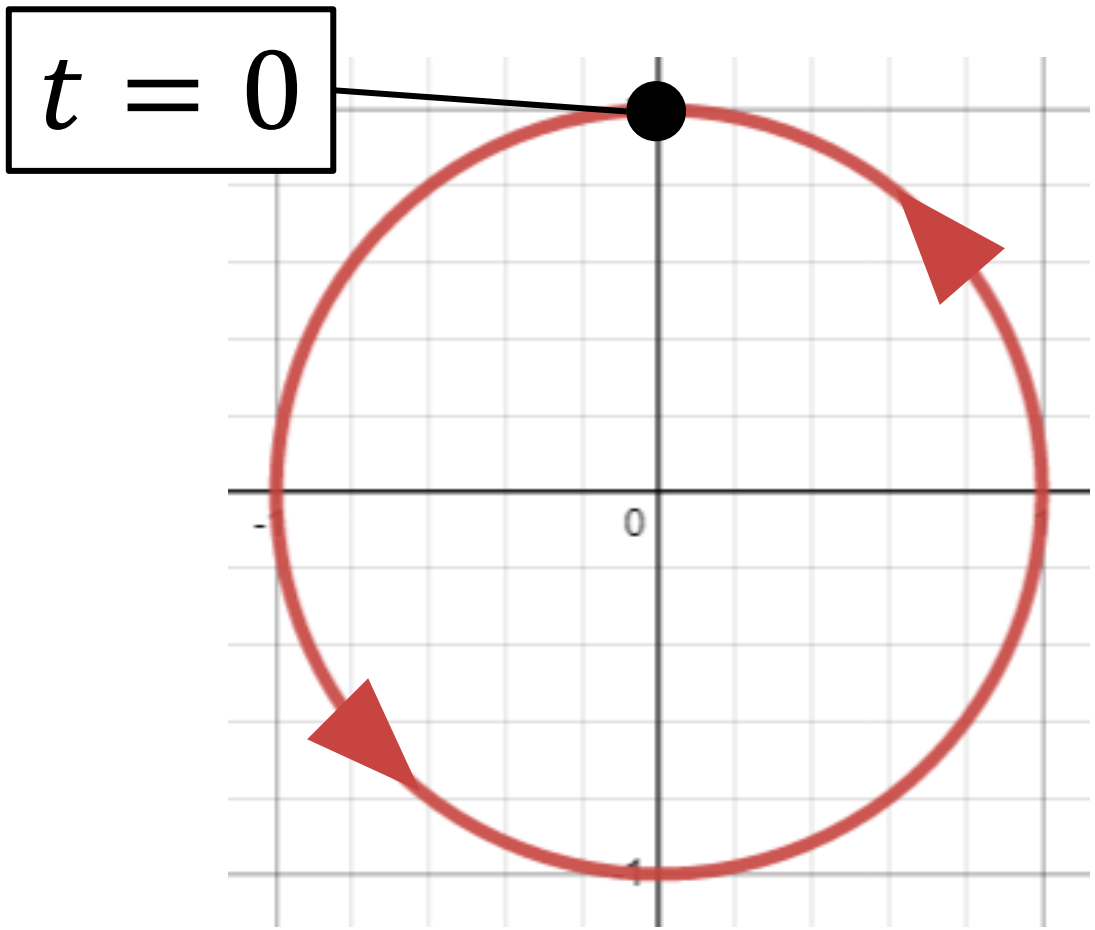
$0 \leq t \leq 2\pi$



(c) $\begin{bmatrix} i \\ 1 \end{bmatrix}$

$\left(\cos\left(t+\frac{\pi}{2}\right), \cos(t)\right)$

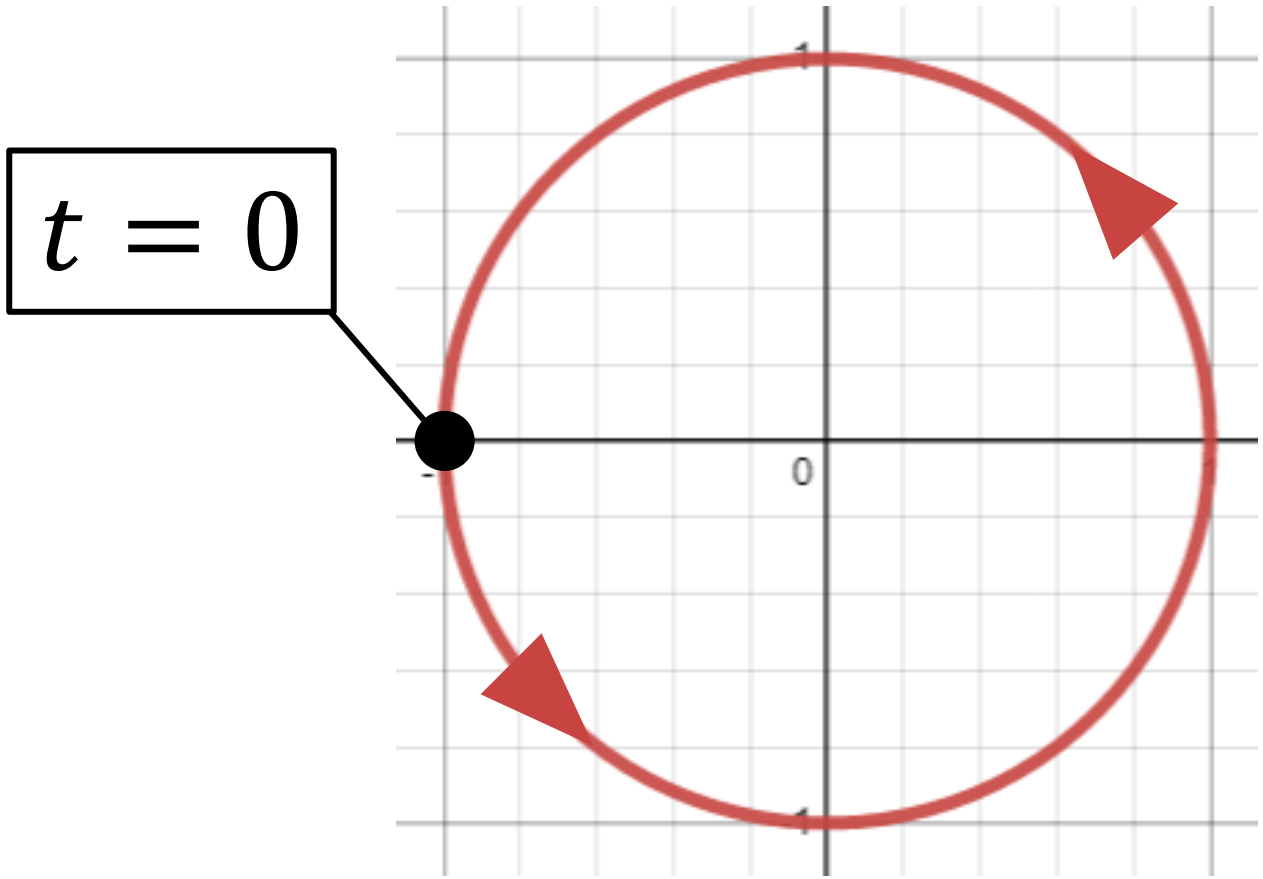
$0 \leq t \leq 2\pi$



(d) $\begin{bmatrix} -1 \\ i \end{bmatrix}$

$\left(-\cos(t), \cos\left(t+\frac{\pi}{2}\right)\right)$

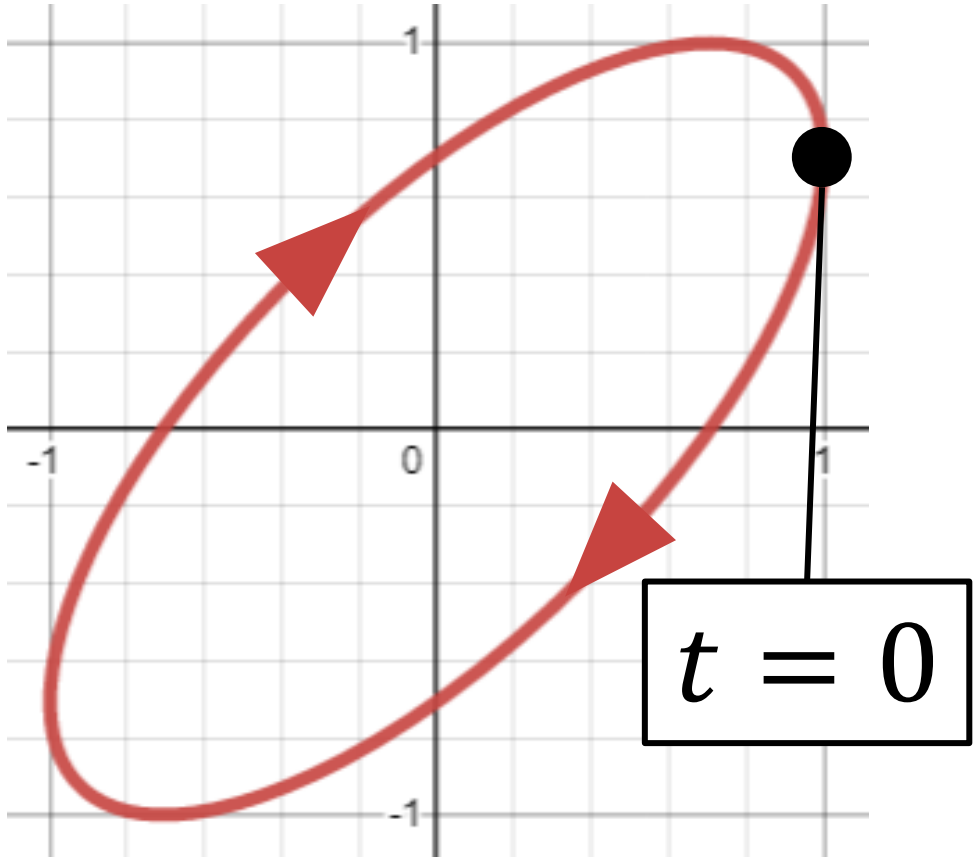
$0 \leq t \leq 2\pi$



(e) $\begin{bmatrix} 1 \\ e^{i\frac{\pi}{4}} \end{bmatrix}$

$\left(\cos(t), \cos\left(t + \frac{\pi}{4}\right)\right)$

$0 \leq t \leq 2\pi$



(f) $\begin{bmatrix} e^{i\frac{\pi}{4}} \\ e^{i\frac{\pi}{2}} \end{bmatrix}$

$\left(\cos\left(t + \frac{\pi}{4}\right), \cos\left(t + \frac{\pi}{2}\right)\right)$

$0 \leq t \leq 2\pi$