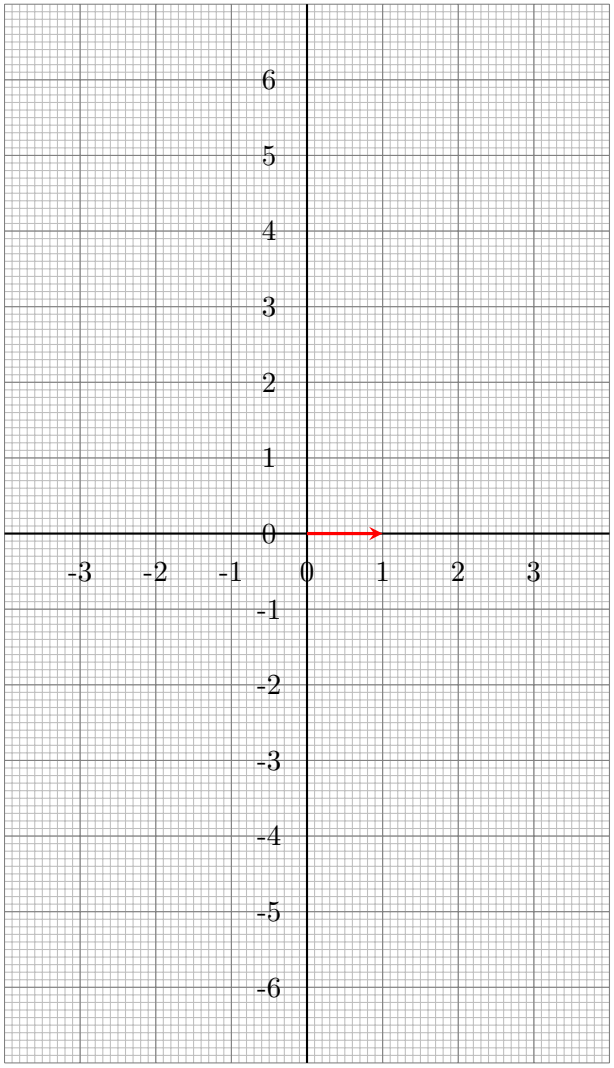
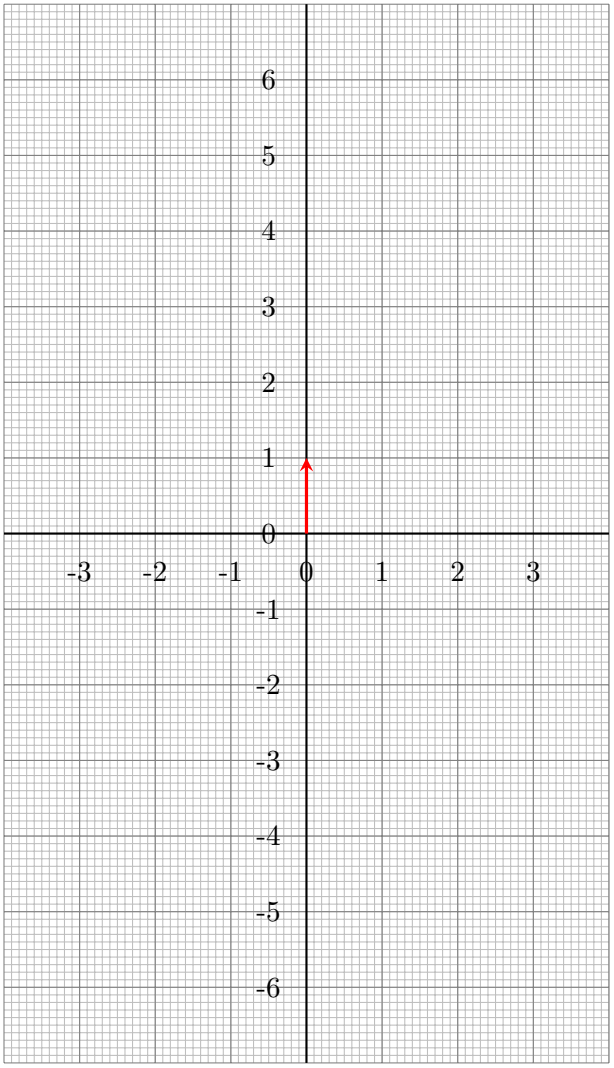
Reflect the vector in the line $y = x$:

a)



answer

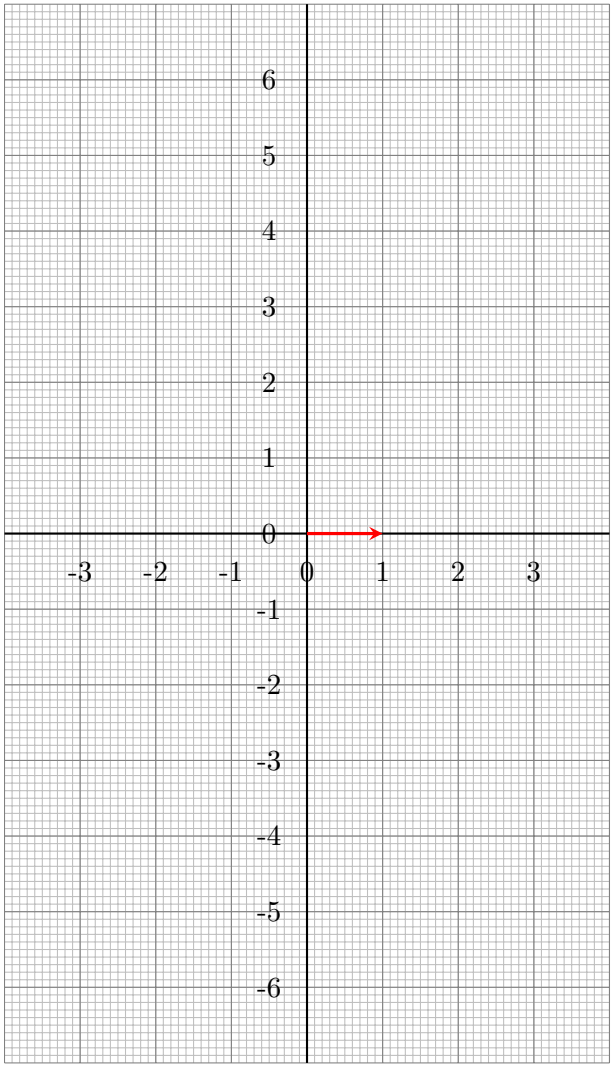
b)



answer

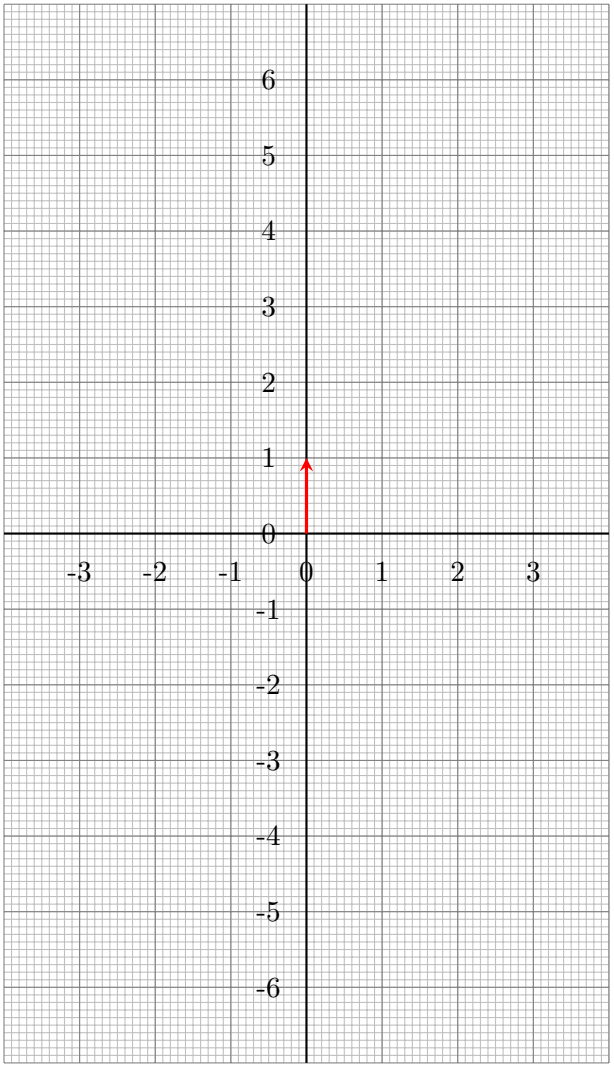
Reflect the vector in the x-axis:

a)



answer

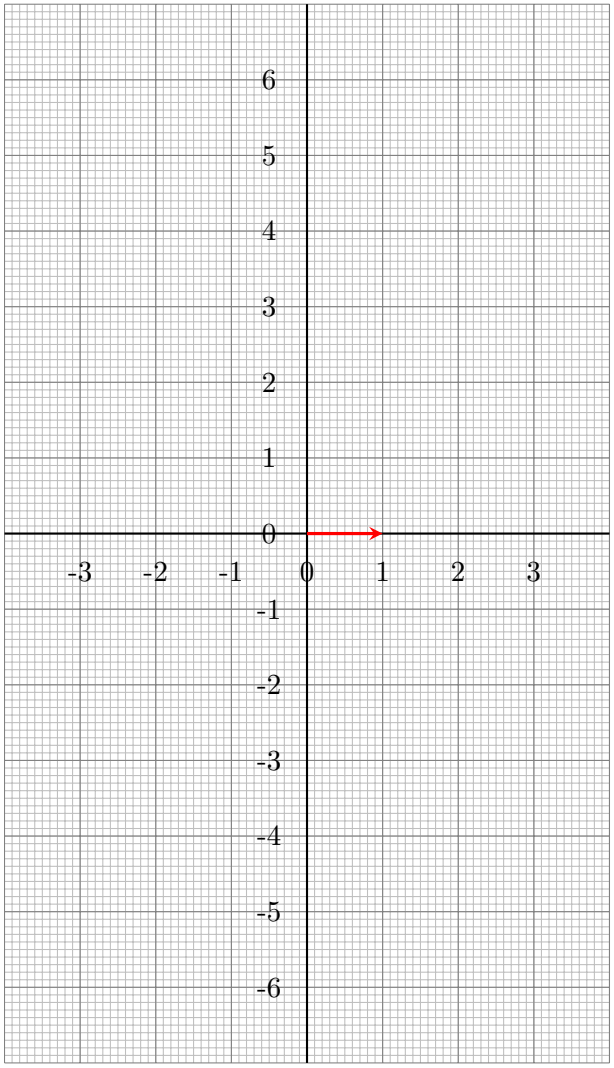
b)



answer

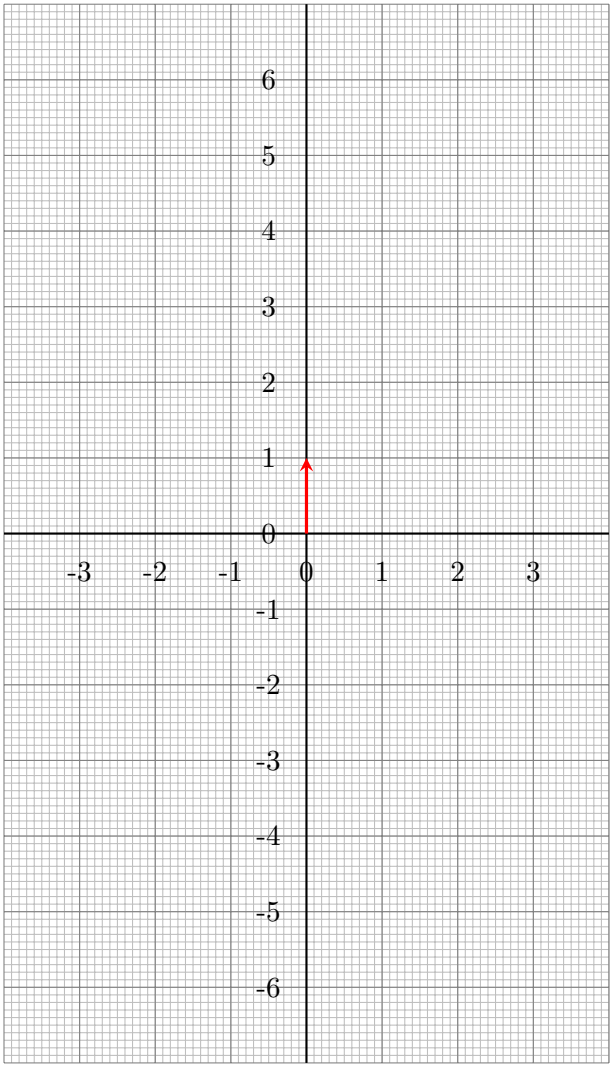
Reflect the vector in the y-axis:

a)



answer

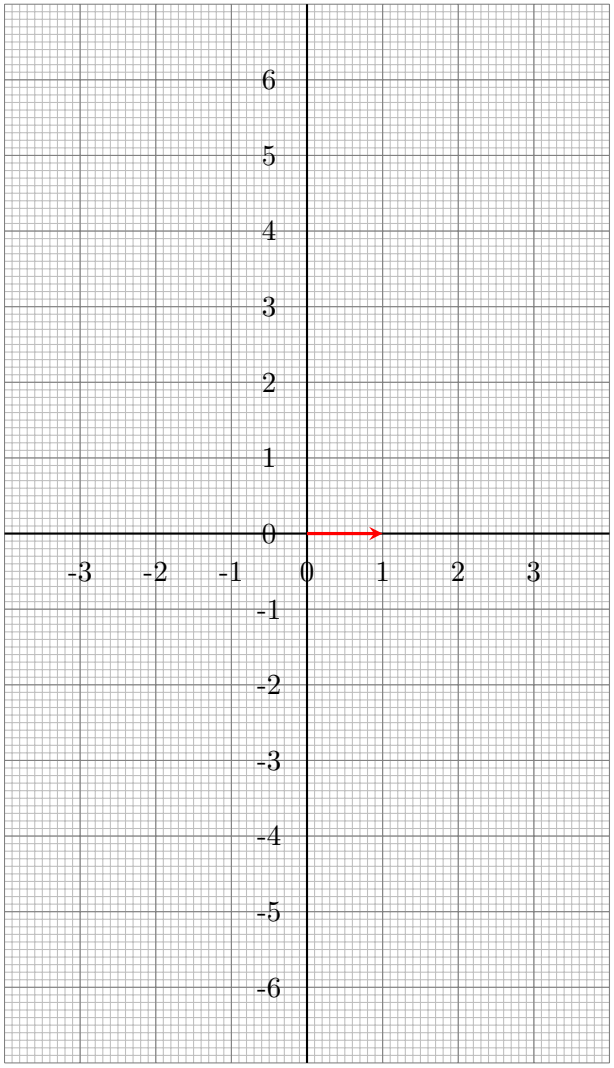
b)



answer

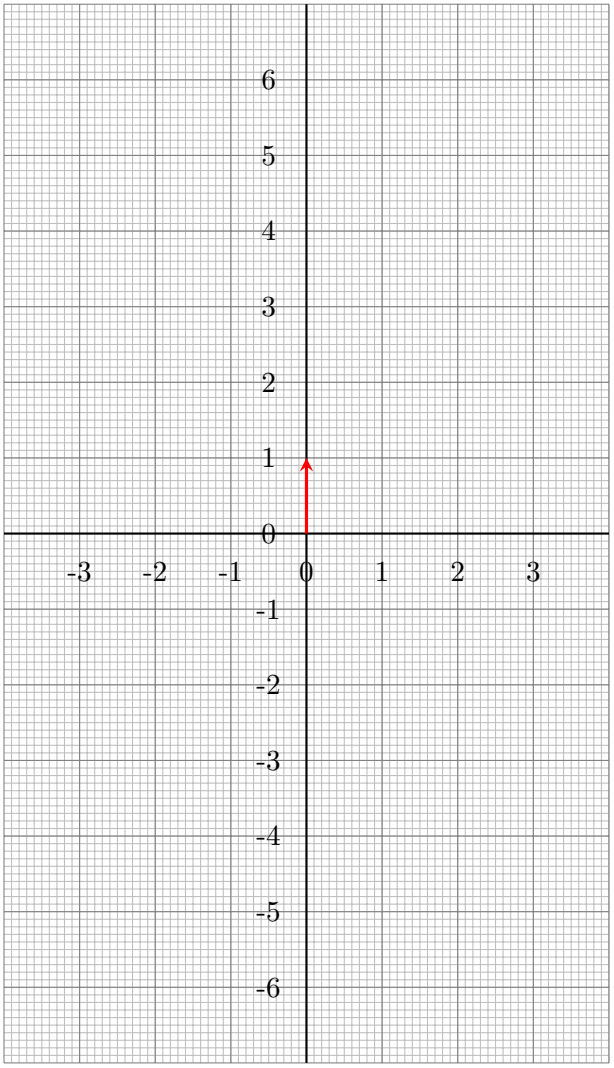
Rotate the vector 90 degrees anti-clockwise:

a)



answer

b)



answer

Find a matrix which transforms the first vector into the second vector:

a) $\begin{pmatrix}1\\0\end{pmatrix}, \begin{pmatrix}0\\1\end{pmatrix}$ *answer*

b) $\begin{pmatrix}1\\0\end{pmatrix}, \begin{pmatrix}1\\0\end{pmatrix}$ *answer*

c) $\begin{pmatrix}1\\0\end{pmatrix}, \begin{pmatrix}-1\\0\end{pmatrix}$ *answer*

d) $\begin{pmatrix}1\\0\end{pmatrix}, \begin{pmatrix}0\\-1\end{pmatrix}$ *answer*

e) $\begin{pmatrix}1\\0\end{pmatrix}, \begin{pmatrix}2\\0\end{pmatrix}$ *answer*

f) $\begin{pmatrix}1\\0\end{pmatrix}, \begin{pmatrix}0\\-2\end{pmatrix}$ *answer*

Find a matrix which transforms the first vector into the second vector:

a) $\begin{pmatrix}0\\1\end{pmatrix}, \begin{pmatrix}0\\1\end{pmatrix}$ *answer*

b) $\begin{pmatrix}0\\1\end{pmatrix}, \begin{pmatrix}1\\0\end{pmatrix}$ *answer*

c) $\begin{pmatrix}0\\1\end{pmatrix}, \begin{pmatrix}-1\\0\end{pmatrix}$ *answer*

d) $\begin{pmatrix}0\\1\end{pmatrix}, \begin{pmatrix}0\\-1\end{pmatrix}$ *answer*

e) $\begin{pmatrix}0\\1\end{pmatrix}, \begin{pmatrix}2\\0\end{pmatrix}$ *answer*

f) $\begin{pmatrix}0\\1\end{pmatrix}, \begin{pmatrix}0\\-2\end{pmatrix}$ *answer*