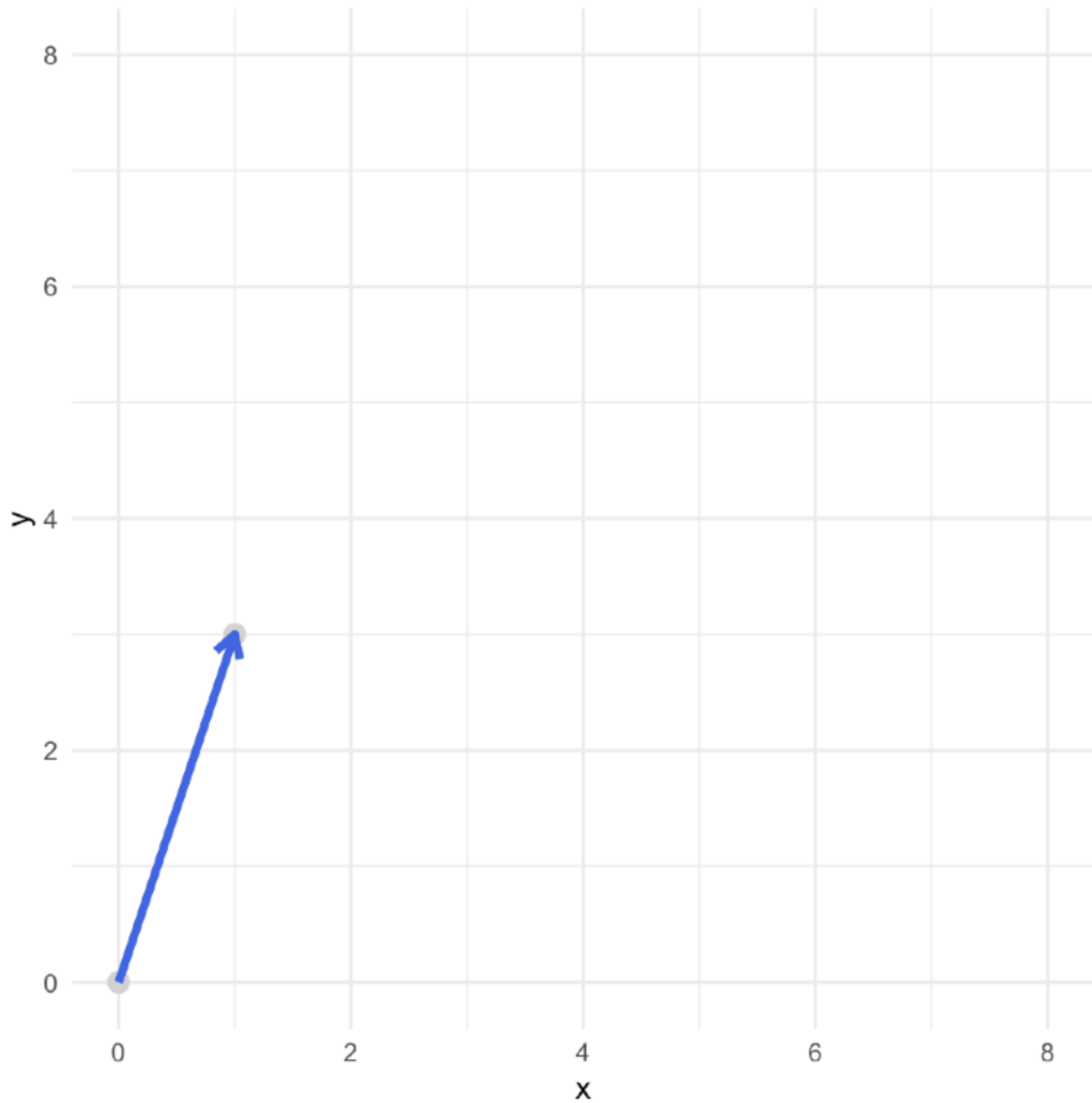


Eigendecomposition



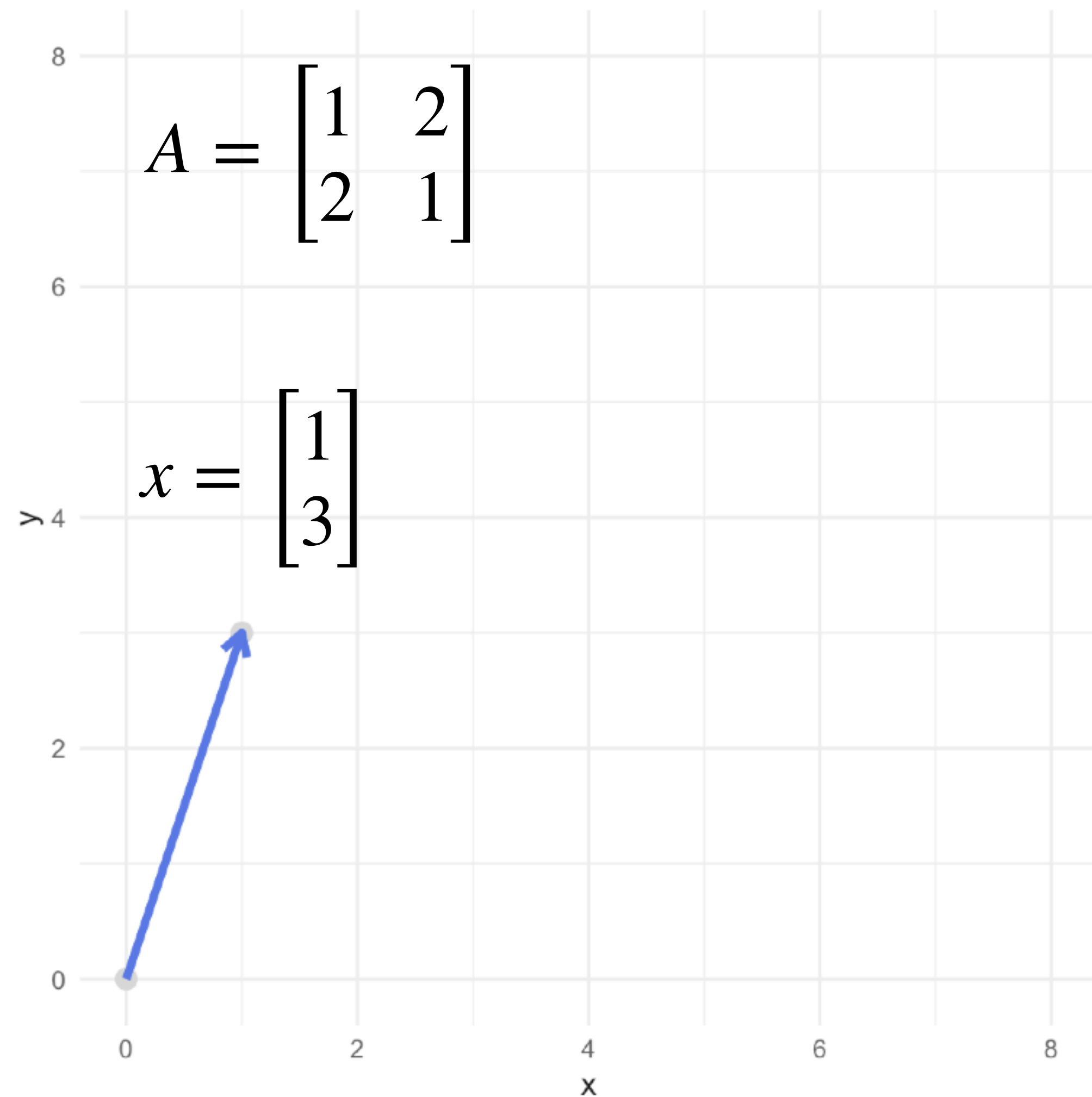


What happens when a matrix hits a vector?

$$A = \begin{bmatrix} 1 & 2 \\ 2 & 1 \end{bmatrix}$$

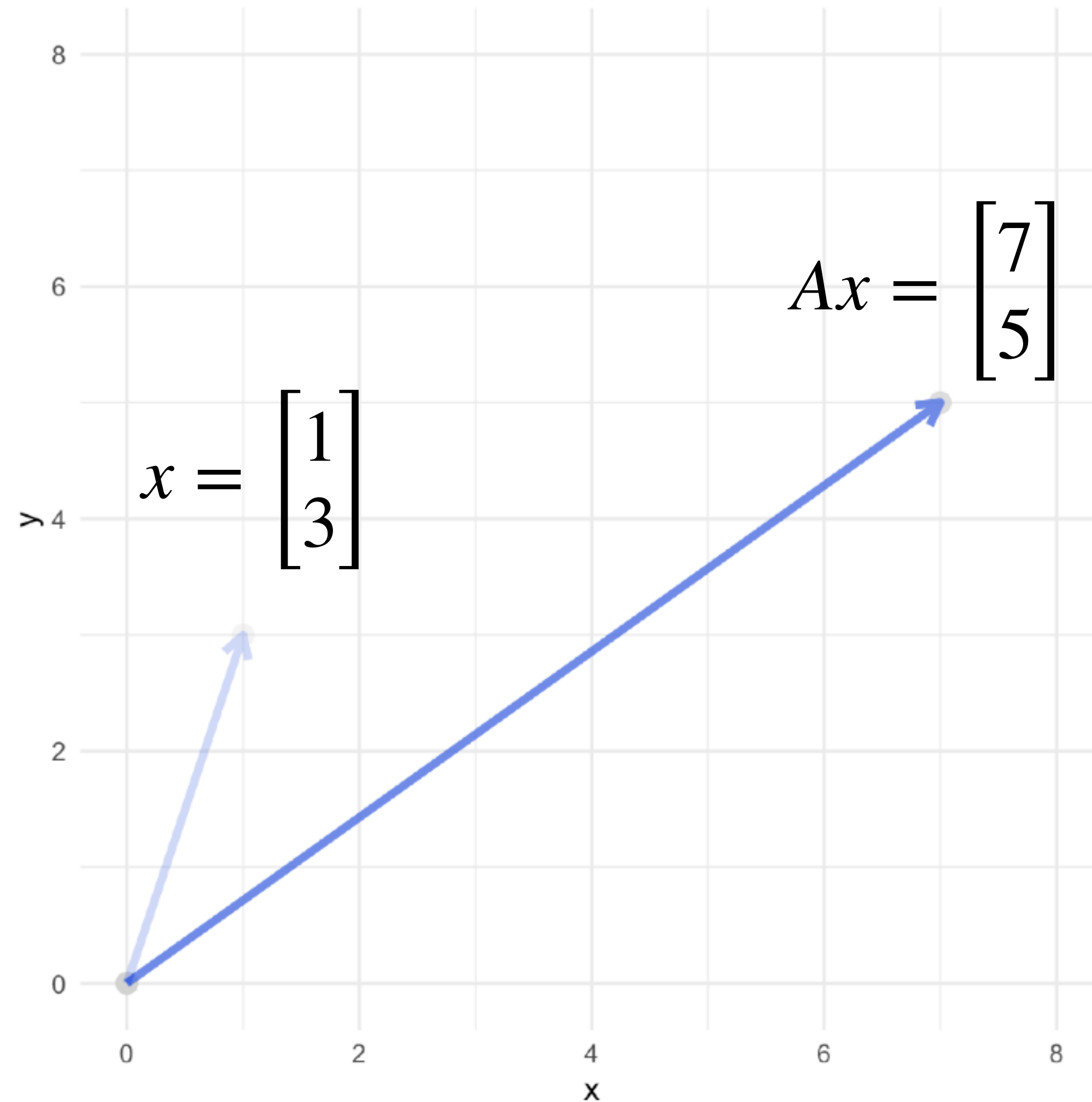
$$x = \begin{bmatrix} 1 \\ 3 \end{bmatrix}$$

Eigendecomposition



What happens when a matrix hits a vector?

Eigendecomposition



What happens when a matrix hits a vector?

The vector transforms into a new vector

- it strays from its path
- it may get scaled: stretched (longer) or squished (shorter)