as well as $\mathbb{R}^2$ (often described as the Euclidean plane), which has the x and y axes.

z

Q

P

y

$(\pi, 1, 1)$

$(\pi, 1, 2.5)$

x

z

$\boldsymbol{k}$

y

$\boldsymbol{i}$

$\boldsymbol{j}$

x

R

$\boldsymbol{PR}$

$\boldsymbol{QR}$

Q

P

$\boldsymbol{PQ}$

$\boldsymbol{u}$

$\boldsymbol{v}$

$\boldsymbol{u} + \boldsymbol{v}$

$\boldsymbol{v}$

$\boldsymbol{u}$

$2\boldsymbol{v}$

$\boldsymbol{v}$

$-\boldsymbol{v}$