

Common Notation

Symbol	Meaning	Reference
\mathbb{R}	Real Numbers	1.1
\mathbb{R}^2	Real Plane	1.1
\mathbb{R}^3	Real Threespace	1.1
\in	Is an element of	1.1
$\{ \}$	Set of elements	1.2
\vec{v}	A vector \vec{v}	2.1
$\vec{i}, \vec{j}, \vec{k}$	Standard unit vectors	2.2
$\ \vec{v}\ $	Magnitude	2.3.1
$\vec{v} \cdot \vec{u}$	Dot product	2.3.2
\vec{n}	Normal vector	2.3.3
$\vec{v}_{\text{parallel}}$	Projection of \vec{v} onto \vec{u}	2.3.3
$\vec{v}_{\text{perp}}, \vec{v}_{\perp}$	Orthogonal complement of \vec{v} onto \vec{u}	2.3.3
$\vec{u} \times \vec{v}$	cross product	2.4
$f_x(x, y), \frac{\partial f}{\partial x}, \frac{\partial z}{\partial x}$	Partial derivative with respect to x	3.1
$f_y(x, y), \frac{\partial f}{\partial y}, \frac{\partial z}{\partial y}$	Partial derivative with respect to y	3.1
$f_z(x, y, z), \frac{\partial f}{\partial z}$	Partial derivative with respect to z	3.1
$f_{\vec{u}}$	directional derivative	3.3
$\text{grad}(f), \nabla(f)$	Gradient	3.3