System of reference

On the plane, a system of reference is formed by a point O of the plane and a basis B={u→,v→}. The point O of the reference system is called an origin.

As said about the basis, the reference systems can, likewise, be orthogonal if the vectors of the basis are perpendicular. Or they can be orthonormal if the vectors of the base are perpendicular and their respective lengths are 1.

The orthonormal reference systems are represented by the letters i→ and j→, or also:

$$\vec{i} = 1 \cdot \vec{i} + 0 \cdot \vec{j} = (1, 0)$$

$$\vec{j} = 0 \cdot \vec{i} + 1 \cdot \vec{j} = (0, 1)$$