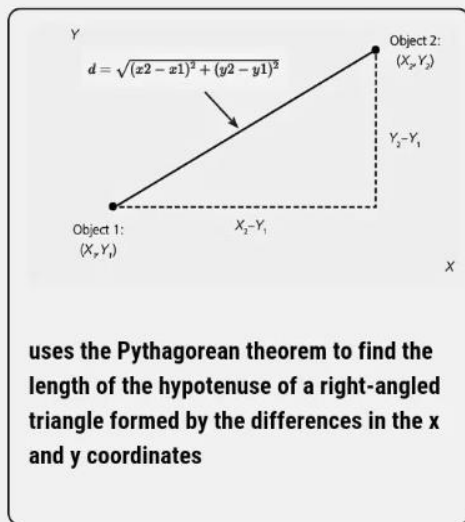# EUCLIDEAN DISTANCE
In Simple Terms

Euclidean distance is a measure of the straight-line distance between two points in space. **It is the distance you would travel if you could move directly from one point to the other, as if you were a bird flying between two locations.**

In simple terms, if you have two points **A** and B with coordinates **(x1, y1)** and **(x2, y2)**, the **Euclidean distance (d)** between them is calculated using the following formula:

$$d = \sqrt{(x2 - x1)^2 + (y2 - y1)^2}$$

uses the Pythagorean theorem to find the length of the hypotenuse of a right-angled triangle formed by the differences in the x and y coordinates

- **(x2−x1)**: The horizontal difference between the x-coordinates of points A and B.
- **(y2−y1)**: The vertical difference between the y-coordinates of points A and B.
- **(x2−x1)^2+(y2−y1)^2**: The sum of the squared horizontal and vertical differences.
- **d** is The square root of the sum, giving the straight-line distance.