

Path-connected spaces

A *path* joining a to b in a space X means a continuous function $f: [0, 1] \rightarrow X$ such that $f(0) = a$ and $f(1) = b$.

A space is *path-connected* when each two points in the space can be joined by a path.

Theorem

A path-connected space is connected.

Assignment due next class

Write a solution to one of the five problems 3, 4, 5, 6, 9 in Exercises 5.2.

Notice that problem 3(ii) should say “*bounded* closed intervals.”