

Lesson: The Intermediate Value Property and Continuous Functions

What is the Intermediate Value Property?

There are 2 consequences of this:

1. Connectedness:

2. Root Finding:

Example Determine the value of a that would make the function continuous at every x :

$$f(x) = \begin{cases} x^2 + 1, & x > 2 \\ ax, & x \leq 2 \end{cases}$$

Example Show that $x^3 - 14x + 2 = 0$ has 3 solutions in the interval $[-4, 4]$