

Definition.

Suppose f is a function defined in some open interval containing $x = a$.
Then f is continuous at $x = a$ provided

$$\lim_{x \rightarrow a} f(x) = f(a) .$$

The function f is continuous on the open interval (a, b) provided f is continuous at each point of (a, b) .

What does this definition tell you about the graph of f ?