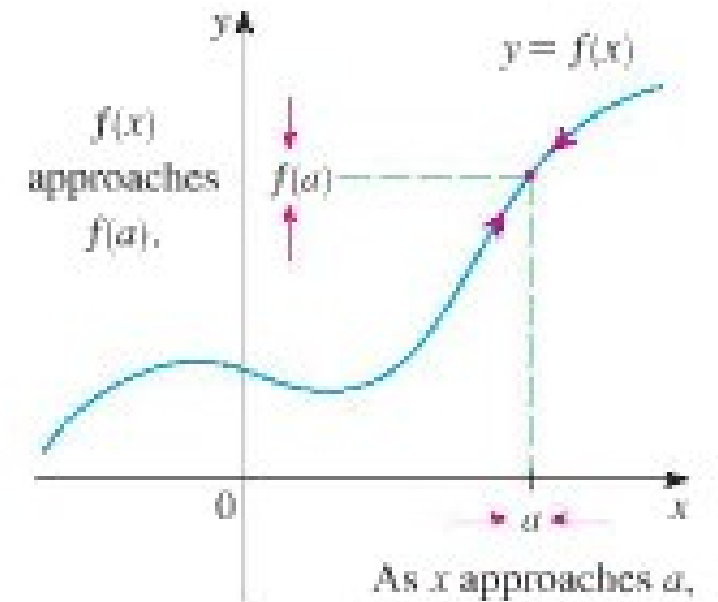# MAT122

Continuity

Continuity - Definition

Rule of Thumb: f is continuous where graph can be drawn without picking up pen from paper

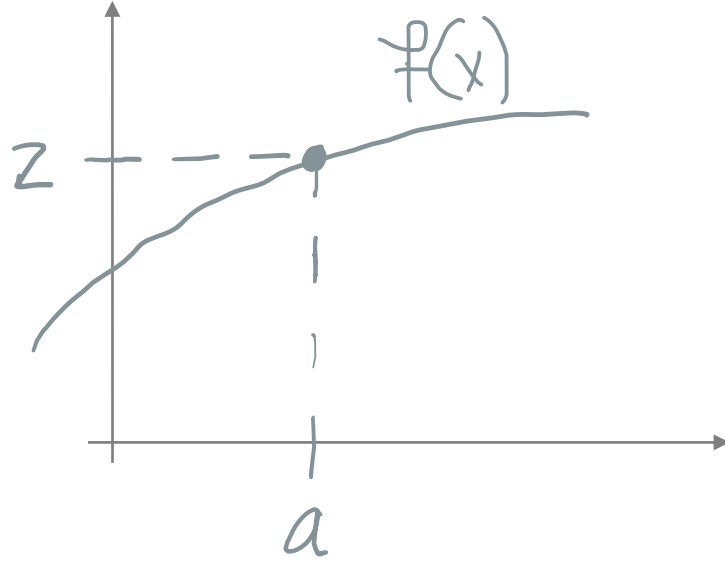> a function f is **continuous at $x=a$** if
> $$\lim_{x \to a} f(x) = f(a)$$

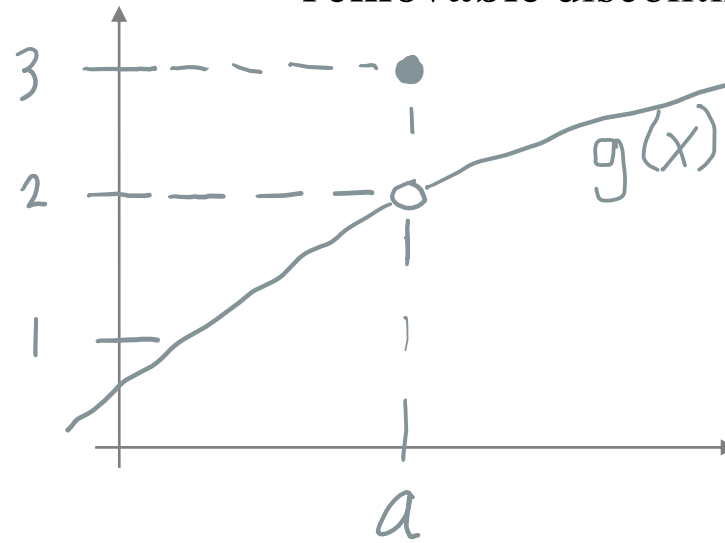i.e., if f is continuous at a, following conditions must be met:

$f(x)$ approaches $f(a)$.

$f(a)$

$y = f(x)$

As x approaches a,

Discontinuity

continuous at $x = a$

$f(x)$

removable discontinuity

$g(x)$

jump discontinuity

$h(x)$