CONTINUOUS EXTENSION OF f(x) to x=c

> A function may have a limit even at a pint where it is not defined. If f(c) is not defined, but $\lim_{x \to c} f(x) = L$ exists, we can define a new function F(x) by the rule:

$$F(x)=\begin{cases} f(x), & \text{if } x \text{ is in the domain of } f(x) \\ L, & \text{if } x = c \end{cases}$$

> F(x) is called the continuous extension of f to x=c.

COMPOSITES

THEOREM:

> If f is continuous at c and g is continuous at f(c), then the composite g(f(c)) is continuous at c.

THE INTERMEDIATE VALUE THEOREM for continuous functions.

> A function y=f(x) that is continuous on a closed interval $\langle a, b \rangle$ takes on every value between f(a) and f(b). In other words, if y_0 is any value between f(a) and f(b), then y_0=f(c) for some c in $\langle a, b \rangle$.
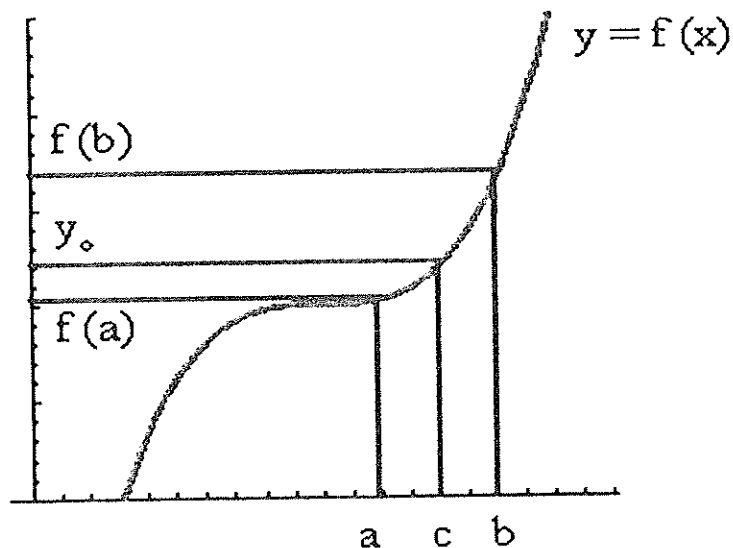
Describe REMOVABLE DISCONTINUITY:

Give a couple of examples of removable discontinuity:

Textbook p84-86   #1-16, # 19, 21, 23, 27,29, #33-36 (#41-50 as many as you can) and #54-59