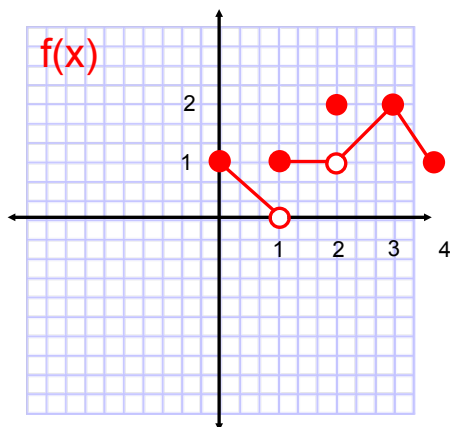


2.3 Continuity

How would you describe Continuity?

Where is $f(x)$ continuous?

For what values of c does
 $\lim_{x \rightarrow c} f(x)$ exist?



Where is the function discontinuous?

2.3

Continuity at a point: (RS #23)

$f(x)$ is continuous at $x = c$ if

1. $f(c)$ exists
2. $\lim_{x \rightarrow c} f(x)$ exists (remember this means left hand = right hand)
3. $\lim_{x \rightarrow c} f(x) = f(c)$

3 types of discontinuities

hole (removable discontinuity)

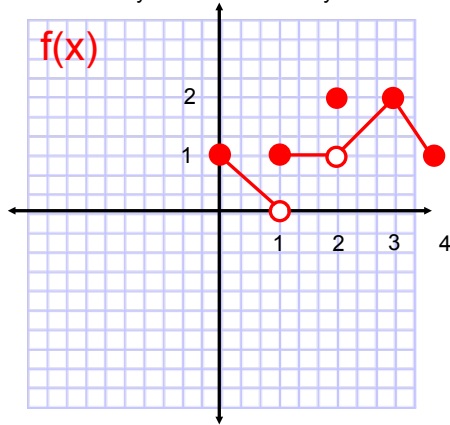
1. jump:

2. removable:

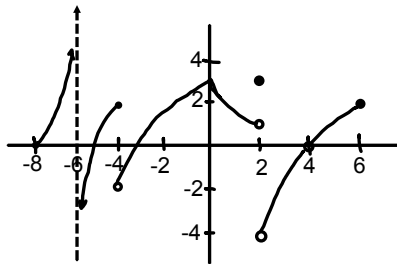
3. infinite:

2.3

Find the values of x where the graph is not continuous. Identify the type of discontinuity. Five reasons for your answers. (Use the continuity definition to justify)



Find the values of x where the graph is not continuous. Identify the type of discontinuity. Five reasons for your answers. (Use the continuity definition to justify)



2.3

Extended function-

Continuous function-

Compositions of continuous functions are continuous.

Intermediate Value Theorem (IVT)

