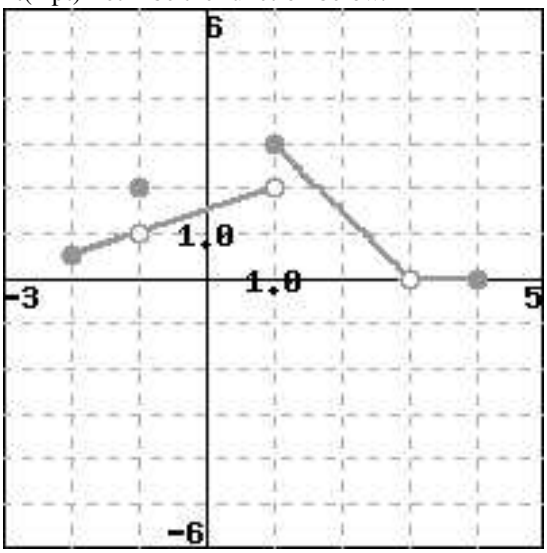
1.(1 pt) Let F be the function below.



Evaluate each of the following expressions.

Note: Enter 'DNE' if the limit does not exist or is not defined.

a) $\lim_{x\to -1^-} F(x) =$ _____

b) $\lim_{x\to -1^+} F(x) =$ _____

c) $\lim_{x\to -1} F(x) =$ _____

d) $F(-1) =$ _____

e) $\lim_{x\to 1^-} F(x) =$ _____

f) $\lim_{x\to 1^+} F(x) =$ _____

g) $\lim_{x\to 1} F(x) =$ _____

h) $\lim_{x\to 3} F(x) =$ _____

i) $F(3) =$ _____

2.(1 pt) Below is an "oracle" function. An oracle function is a function presented interactively. When you type in an x value, and press the –f–> button and the value $f(x)$ appears in the right hand window. There are three lines, so you can easily calculate three different values of the function at one time.

Determine the limits for the function f at 1.74.

$\lim_{x\to 1.74^-} =$ _____

$f(1.74) =$ _____

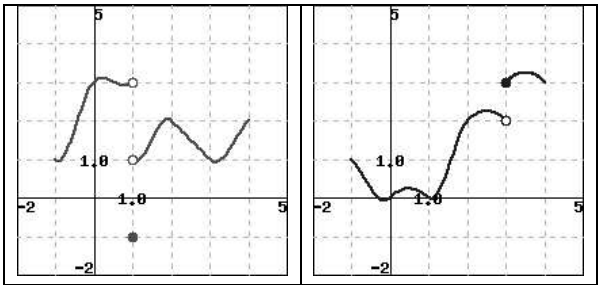
$\lim_{x\to 1.74^+} =$ _____

Are all of these values the same?: (Y or N) ___ . If so then the function is **continuous** at 1.74

Are the left and right limits the same at 1.74?: (Y or N) ___ . If so then this function is almost continuous and could be made continuous by redefining one value of the function namely $f(1.74)$.

x	→	f(x)
Enter x	→	result: $f(x)$
Enter x	→	result: $f(x)$
Enter x	→	result: $f(x)$

3.(1 pt)



f(x) g(x)

The graphs of f and g are given above. Use them to evaluate each quantity below. Write 'DNE' if the limit or value does not exist (or if it's infinity).

___ 1. $\lim_{x\to 1^+} [f(g(x))]$

___ 2. $f(3) + g(3)$

___ 3. $\lim_{x\to 1^-} [f(x)/g(x)]$

___ 4. $\lim_{x\to 3^+} [f(g(x))]$