Calculus AB
1-4

(Day 1)

Continuity

Without a formal definition, which of the following functions would you consider to be **continuous**?
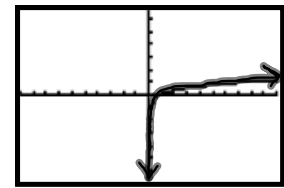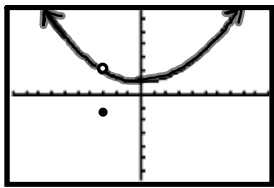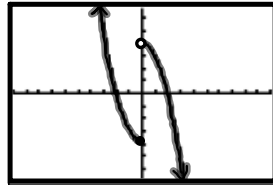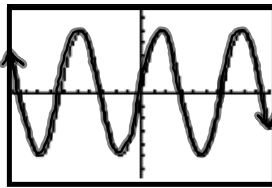
Definition of Continuous -

a function *f* is continuous at *c* iff

1)

2)

3)

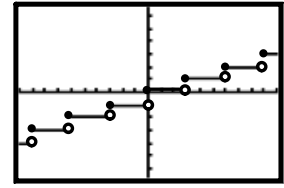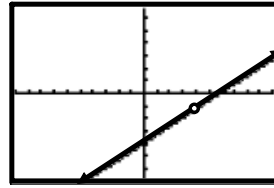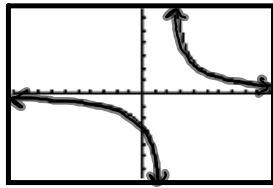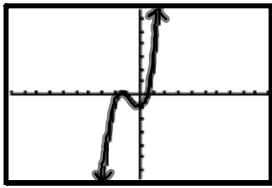Find the limit (if it exists). If it does not exist, explain why.

7) $\displaystyle\lim_{x \to 5^+} \frac{x - 5}{x^2 - 25}$

*) $\displaystyle\lim_{x \to 4^-} \frac{x - 4}{|x - 4|}$

Find the x values (if any) at which f is not continuous. Which of the discontinuities are removable?

37) $f(x) = \dfrac{x}{x^2 + 1}$

49) $f(x) = \begin{cases} \tan \frac{\pi x}{4}, & |x| < 1 \\ x, & |x| \geq 1 \end{cases}$

I gave the odds, so check the answers as you go.

A helpful guide to math (calculus) homework. If you get stuck on
   a problem, go to the next. The more problems you attempt,
   the more you learn from the assignment. If you don't know
   how to do a whole section of problems, go to the next.

In this assignment, the problems in the 7 - 21 section get pretty tough,
so make sure you try some from the rest, which really aren't all that bad.

Assignment:
Pg. 78
   1-5 odd,
7-57 odd