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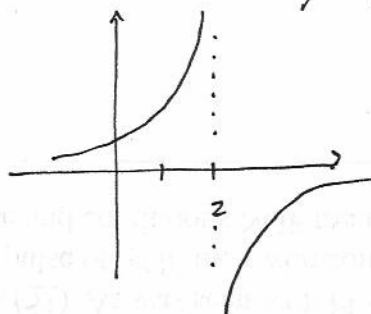
MAT 122

1.7 Continuity

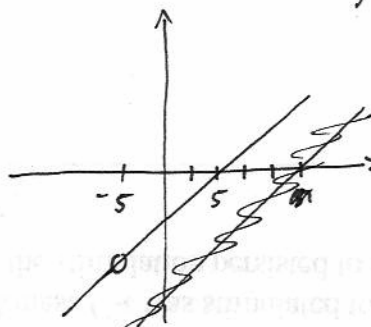
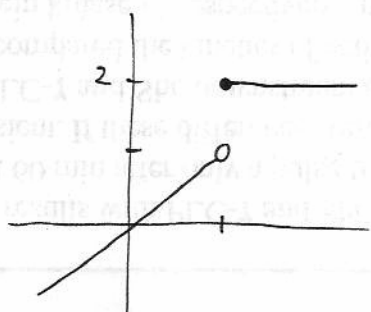
on an interval

A function is continuous if there are no jumps breaks or holes in graph. over that interval.

$$y = \frac{1}{x-2}$$



$$y = \frac{x^2 - 25}{x + 5} \approx x - 5$$

continuous on $(-\infty, 2)$ not continuous on $(0, 3)$ 

$$f(x) = \begin{cases} x & \text{if } x < 1 \\ 2 & \text{if } x \geq 1 \end{cases}$$

Is it continuous on $\mathbb{R}$?

① $f(x) = |x|$

② $f(x) = x^{1/3}$

③ $f(x) = \frac{|x|}{x}$

Exp. fns, polys, ~~any~~ trig fns and exp fns where defined.
rat fns where denom $\neq 0$.

$\pm$ cont fns $\Rightarrow$ cont fn
comp.