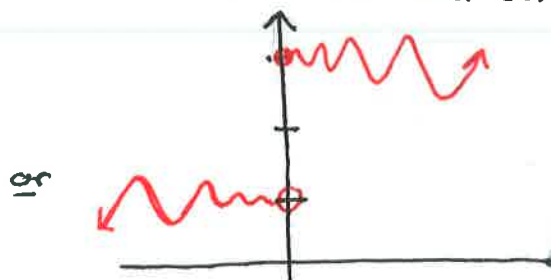
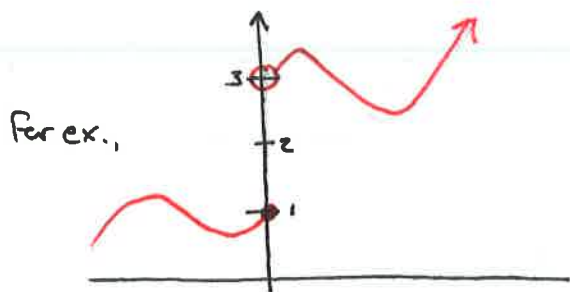
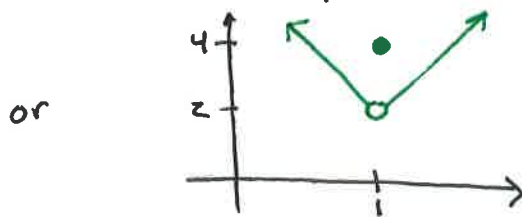
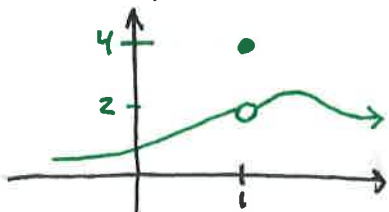


Sample examples for "Limits and Continuity."

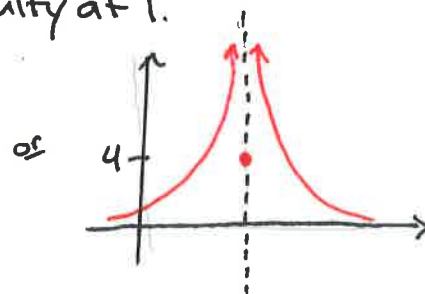
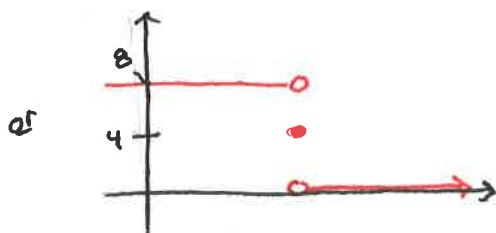
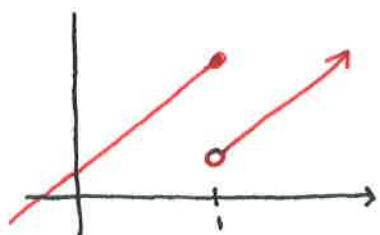
1. $\lim_{x \rightarrow 0^-} f(x) = 1$, $\lim_{x \rightarrow 0^+} f(x) = 3$, f is continuous on $(-\infty, 0)$ and $(0, \infty)$.



2. $f(1) = 4$, f has a removable discontinuity at 1.

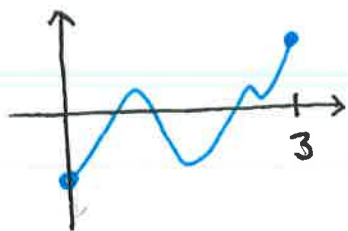


3. $f(1) = 4$, f has a nonremovable discontinuity at 1.

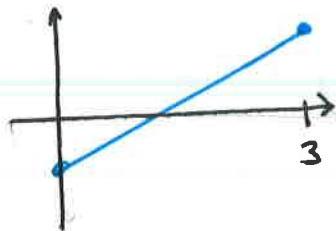


they all show $f(1) = 4$ with a point at $(1, 4)$, but $\lim_{x \rightarrow 1} f(x)$ doesn't exist.

4. $F(0) < 0$, $F(3) > 0$, and F ~~has~~ is continuous on $[0, 3]$.

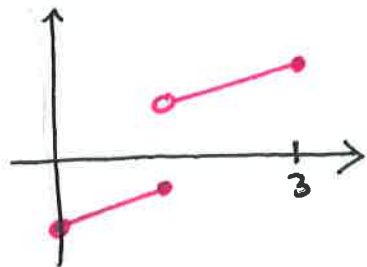


or

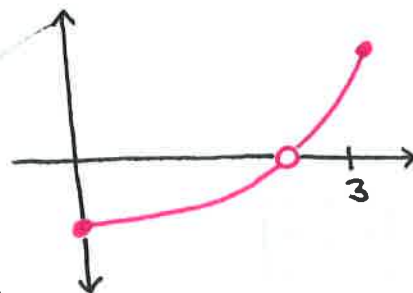


it's worth noticing that each example above has at least one zero in $[0, 3]$.

5. $F(0) < 0$, $F(3) > 0$, F has no zeros in $[0, 3]$



or



these satisfy all the given conditions, but note they are both discontinuous (have at least one discontinuity).