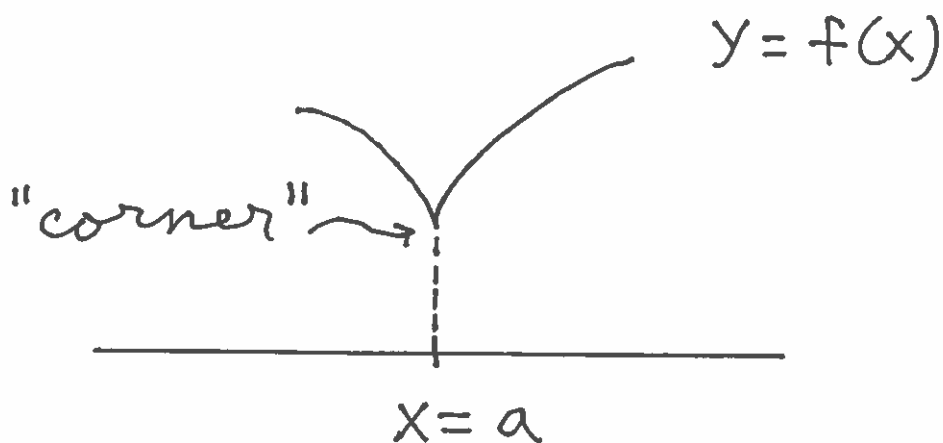


When Does the Derivative of $y = f(x)$ NOT EXIST at a Point $x = a$?

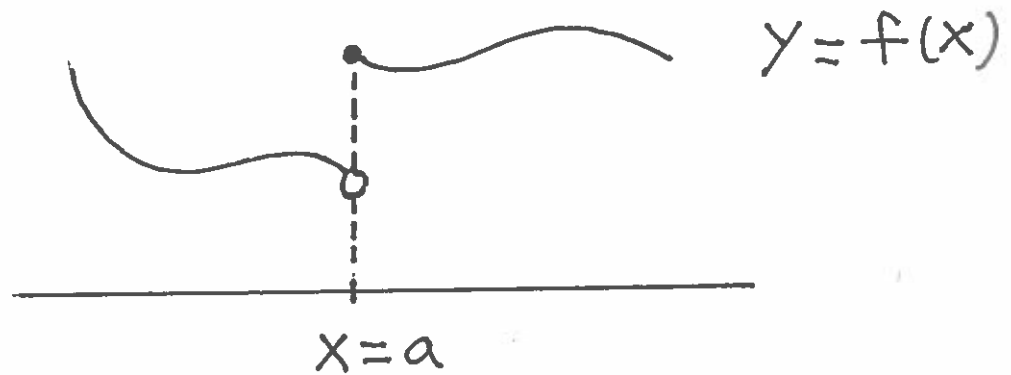
RECALL: If $y = f(x)$, then $f'(a)$ is the SLOPE of the Tangent line to the graph of f at $x = a$.

FACTS: The derivative $f'(a)$ does NOT EXIST if:

- 1.) the graph of f has a "corner" at $x = a$:



2.) the graph of f is not continuous at $x=a$:



3.) the graph of f has a vertical tangent line (SLOPE is undefined) at $x=a$:

