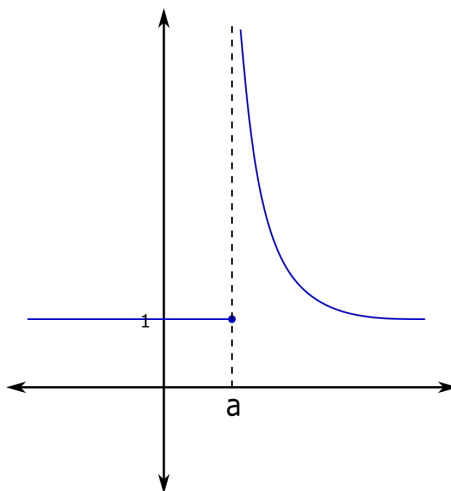


For full credit, you must show all work and circle your final answer.

- 1 Use the following picture to determine $\lim_{x \rightarrow a} f(x)$ and $f(a)$.



- 2 Determine the following limits.

a) $\lim_{x \rightarrow \infty} \frac{x^2 + 2x + 1}{x^3 + 5x^2 + x + 2}$

b) $\lim_{x \rightarrow \infty} \frac{x^2 - 1}{x + 1}$

- 3 Determine for which values the following function is discontinuous.

$$f(x) = \frac{1}{(x-2)(x+3)}$$