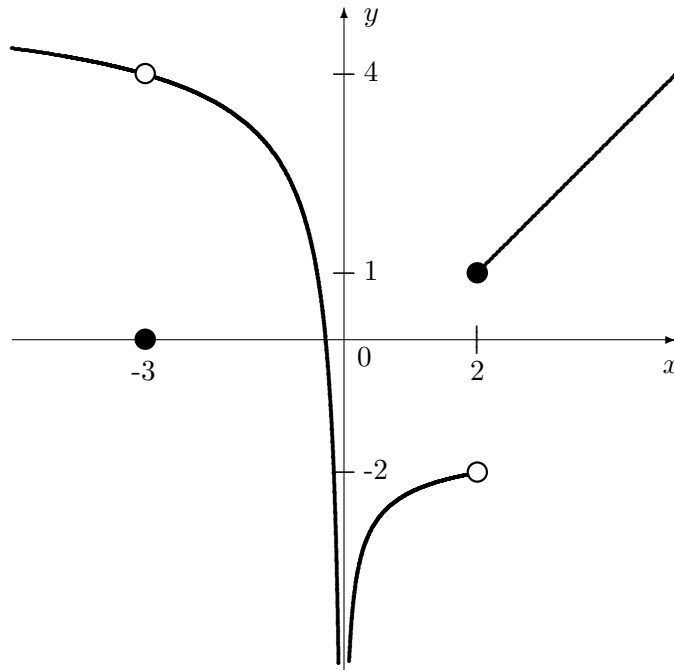


Name

MUN Number

- [12] 1. Use the graph of $y = f(x)$ below to determine each of the following. Label the limits as ∞ or $-\infty$ where appropriate. If the limit does not exist or the value of the function is undefined, indicate this.



(a) $f(0) =$

(b) $\lim_{x \rightarrow 0^-} f(x) =$

(c) $\lim_{x \rightarrow 0^+} f(x) =$

(d) $\lim_{x \rightarrow 0} f(x) =$

(e) $f(-3) =$

(f) $\lim_{x \rightarrow -3^-} f(x) =$

(g) $\lim_{x \rightarrow -3^+} f(x) =$

(h) $\lim_{x \rightarrow -3} f(x) =$

(i) $f(2) =$

(j) $\lim_{x \rightarrow 2^-} f(x) =$

(k) $\lim_{x \rightarrow 2^+} f(x) =$

(l) $\lim_{x \rightarrow 2} f(x) =$

[28] 2. Determine each of the following limits. If a limit does not exist, explain why.

(a) $\lim_{x \rightarrow 4} \frac{2x^2 - 7x - 4}{3x^2 - 12x}$

(b) $\lim_{x \rightarrow 2} \frac{1 - \sqrt{7 - 3x}}{x^2 - 4}$

(c) $\lim_{x \rightarrow -3} \frac{(x + 4)^{-1} + 3x^{-1}}{x + 3}$

$$(d) \lim_{x \rightarrow \frac{\pi}{2}} \frac{6 - \cos(2x)}{2 \cos(x) + 1}$$

$$(e) \lim_{x \rightarrow 0} \frac{\sin(x)}{\sin(3x)}$$

$$(f) \lim_{x \rightarrow 0} \frac{6x}{|x| + 2x}$$