

Numerical Limits

1. Evaluate $\lim_{x \rightarrow 3^-} f(x)$, $\lim_{x \rightarrow 3^+} f(x)$ and $\lim_{x \rightarrow 3} f(x)$

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

x							
f(x)							

2. Evaluate $\lim_{x \rightarrow -2^-} f(x)$, $\lim_{x \rightarrow -2^+} f(x)$ and $\lim_{x \rightarrow -2} f(x)$

where $f(x) = \frac{x^2-x-6}{x+2}$

x							
f(x)							

3. Evaluate $\lim_{x \rightarrow 0^-} f(x)$, $\lim_{x \rightarrow 0^+} f(x)$ and $\lim_{x \rightarrow 0} f(x)$

where $f(x) = \begin{cases} x+1 & x < 0 \\ x^2 & x \geq 0 \end{cases}$

x							
f(x)							