

2. Analytical Limits

4 pts (a) $\lim_{x \rightarrow \infty} \frac{2x^3 + 8}{5x^3 - 2}$

4 pts (b) $\lim_{x \rightarrow 2^-} \lfloor x - 5 \rfloor$

4 pts (c) $\lim_{x \rightarrow 4} \frac{|x - 4|}{x - 4}$

4 pts (d) $\lim_{x \rightarrow 3^+} f(x)$, where $f(x) = \begin{cases} x^2, & x < 3 \\ x + 5, & x \geq 3 \end{cases}$

4 pts (e) $\lim_{x \rightarrow 5^+} \frac{3 - x}{x - 5}$

4 pts (f) $\lim_{x \rightarrow 0} \frac{1 - \cos x}{\sin x}$ must show steps

4 pts (g) $\lim_{x \rightarrow \infty} \frac{\sin x}{x^3 + 8}$

6 pts (h) $\lim_{x \rightarrow 0} \frac{\frac{1}{x-2} + \frac{1}{2}}{x}$ Must Show Steps