Math 114 Spring 2019
Calculus I HW 3
Due Wednesday, February 13

1. Compute $\lim_{x \to -\infty} \frac{x^3 + 1}{\sqrt{x^6 + x^4 + 1}}$.
2. Compute $\lim_{x \to +\infty} x^2 - x$.
3. Compute $\lim_{x \to +\infty} 2x - \sqrt{4x^2 + 3x + 1}$
4. If $f(x) = \sqrt[3]{x}$, then $f'(27) = \frac{1}{27}$. Use linear approximation to estimate $\sqrt[3]{25}$ and $\sqrt[3]{30}$.
5. Let $g(x) = x^2$. Use the definition of derivative to compute $g'(3)$ and then linearly approximate 3.2^2.
6. Stewart 2.1.26
7. Stewart 2.1.28
8. Stewart 2.1.30
9. Stewart 2.1.32
10. Stewart 2.1.34
11. Stewart 2.2.22
12. Stewart 2.2.24
13. Stewart 2.2.34
14. Stewart 2.2.36