

1 Some Precalc Examples

- $(f \pm g)(x) = f(x) \pm g(x)$
- $(f/g)(x) = \frac{f(x)}{g(x)}$
- $(f \circ g)(x) = f(g(x))$

2 Some Calculus Examples

1. $\lim_{x \rightarrow \infty} \frac{3x^2 + 7x^3}{x^2 + 5x^4} = 3$

2. $f'(a) = \lim_{h \rightarrow 0} \frac{f(a+h) - f(a)}{h}$

3. $\sum_{k=1}^n k^2 = \frac{n(n+1)}{2}$

4. $\int_0^R \frac{2x}{1+x^2} dx = \ln(1+R^2)$

3 A Graph from Sage

