Math 131 - November 7, 2014

Warm-up Problems

1. Draw the graphs (in the detail as described in class) for the functions from Wednesday:

   (a) \( f(x) = 3x^4 - 4x^3 + 5 \)
   (b) \( f(x) = 3x^5 - 5x^3 + 3 \)
   (c) \( f(x) = \frac{5x}{x^2 + 1} \)

2. Graph \( f(x) = \frac{x}{e^x} \).

Lecture Problems

3. Identify the indeterminate form (if it is indeterminant) and use L’Hôpital’s rule to evaluate.

   (a) \( \lim_{x \to \infty} \frac{5x - 2}{7x + 3} = \)

   (b) \( \lim_{x \to \infty} \frac{x^5 + x^4 + x^3 + x^2 + x + 1}{2x^5 + x^4 + x^3 + x^2 + x + 1} = \)

   (c) \( \lim_{x \to -2} \frac{x + 2}{\ln(x + 3)} = \)

   (d) \( \lim_{x \to 0} \frac{\sin x}{x} = \)