

## Topic #18 (Math 31)

---

1. Goals (Section 4.8)
  - i. L'Hospitals
2. Indeterminate Forms:
  - a.  $0/0$
  - b. Infinity / infinity
  - c. Others which reduce to these two ...
3. Issues.
  - a. Without L'Hospitals – by factoring
  - b.  $(\sin x) / (x) ??$
4. L'Hospitals: Find limit of derivative of top and bottom.
5. Other indeterminate forms
  - a. ZERO times INFINITY: Write as appropriate fraction.
  - b. INFINITY – INFINITY: Make into one fraction.
  - c. EXPONENTIAL ONES:
    - i. 1 to INF
    - ii. INF to 0
    - iii. 0 to 0.
6. Examples
  - a. Section 4.8: 356 - 395