

Although Lin McMullin did not give a presentation at HACT this year, he held a Calculus Workshop at Dobie High School in the Pasadena Independent School District, just south of Houston, on Saturday, October 14, 2017. Lin has generously offered to share the resources that he presented at this workshop through the HACT website. For the handouts from his January 30, 2010 HACT workshop, look [here](#).

## PADADENA TEXAS CALCULUS WORKSHOP RESOURCES

Presented by Lin McMullin

October 14, 2017

**Resources** – This page with live links can be found at [Pasadena Workshop](#). The PowerPoints, activities used today, and other information is here as well.

Additional resources are at my blog: [www.TeachingCalculus.com](http://www.TeachingCalculus.com)

### The Course and Exam Description

- MPACs, Big Ideas, Learning Objectives, and Essential Knowledge
- Changes:
  - Changes for both AB and BC
    - Domain restrictions for Differential Equations EK 3.5A3 also <http://wp.me/p2zQso-1vB>
    - Techniques of antidifferentiation include “algebraic manipulation such as long division and completing the square” EK 3.3B5
    - “Displacement”
  - Change for AB add
    - L’Hospital’s Rule EK 1.1C3
  - Change for BC add
    - Limit Comparison Test
    - Absolute and Conditional Convergence
    - Alternating Series error bound

### Reviewing for the AP Exams

- My Handout of resources in Google Docs at the link above
- Discuss type questions, [TAPC 3e Chapter 22](#)
- Resources in file
  - [Discuss Type Analysis 2017](#)
  - [AB and BC Standards](#),
  - [FR by Type](#),
  - [Type Analysis](#)
  - [FR Index by Topic](#) (Ted Gott)

### The Ten Type Problems:

See: [TAPC 3e Chapter 22.pdf](#), in file and links to my blog below and activities for each

- **Type 1: Rate / Accumulation** <http://wp.me/p2zQso-1u3>  
  - Accumulation Activity
  - Average Value Activity
- **Type 2: Linear Motion** <http://wp.me/p2zQso-1uA>  
  - Motion Matching Speed Activity
- **Type 3: Graph Analysis** <http://wp.me/p2zQso-1uG>  
  - Function-graph-derivative matching Activity
  - Quiz Activity
- **Type 4: Area & Volume** <http://wp.me/p2zQso-1uQ>  
  - Wedding Bell Activity
- **Type 5: Table & Riemann sum** <http://wp.me/p2zQso-1uW>  
  - The Old Pump and the Airplane Activity
- **Type 6: Differential Equations** <http://wp.me/p2zQso-1uZ>  
  - Slope Fields Cards 1 and Slope Field Cards 2 Activity
  - Slope Field Activity
- **Type 7: Other** <http://wp.me/p2zQso-1v3>
- **Type 8: Parametric and Vector (BC)** <http://wp.me/p2zQso-1v5>
- **Type 9: Polar (BC)** <http://wp.me/p2zQso-1vj>
- **Type 10: Sequences and Series (BC)** <http://wp.me/p2zQso-1vu>

Writing on the AP Calculus Exams <http://wp.me/p2zQso-1tT>

### Desmos Activities

- [www.Desmos.com](http://www.Desmos.com)
- [Difference Quotients](#)
- [Taylor Series  \$\sin\(x\)\$  center at  \$x = 0\$](#)
- [Taylor Series  \$\ln\(x\)\$  center at  \$x = 2\$](#)
- [Given function explore its derivative](#)
- [Given derivative explore function](#)
- [Integration w/o derivatives](#)