

Exam Topics (Mid-term #3)

Material Covered:

- Sections 5.1-5.5, 5.7, 6.1-6.3
- Worksheets 8-11
- the HWs associated with Worksheets 8-11

Exam Topics:

1. increasing/decreasing
2. critical point
3. relative extremum
4. concave up/down
5. inflection point
6. First derivative test
7. Second derivative test
8. Relationship between first derivative and increasing/decreasing
9. Relationship between second derivative and concavity
10. asymptotes (horizontal, vertical, oblique, and curvilinear)
11. cusps and vertical tangent lines
12. finding asymptotes
13. curve sketching (polynomial, rational and algebraic functions)
14. absolute extrema (over an interval which is closed or not closed)
15. Extreme-Value Theorem
16. applied max/min problems
17. Rolle's Theorem
18. Mean Value Theorem
19. Constant Difference Theorem
20. the area function
21. antiderivatives (and constant of integration)
22. indefinite integral
23. properties of the indefinite integral
24. integration by u-substitution