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AP Calculus AB First Semester Topic List

1. Limits algebraically
2. Limits graphically
3. Limits at infinity
4. Asymptotes
5. Continuity
6. Intermediate value theorem
7. Differentiability
8. Limit definition of a derivative
9. Average rate of change (approximate derivative)
10. Tangent lines
11. Derivatives rules and special functions
12. Chain Rule
13. Derivatives of generic functions using chain rule
14. Implicit differentiation
15. Related rate problems
16. Derivatives of inverses
17. Logarithmic differentiation
18. Local linear approximation
19. Determine function behavior (increasing, decreasing, concavity) given a function
20. Determine function behavior (increasing, decreasing, concavity) given a derivative graph
21. Finding critical points and determining if they are relative maximum, relative minimum, or neither
22. Second derivative test for relative maximum or minimum
23. Finding inflection points
24. Finding and justifying critical points from a derivative graph
25. Absolute maximum and minimum
26. Maximum and minimum optimization problems
27. Motion derivatives
28. Describing motion
29. Total distance travelled
30. Vertical motion
31. Using a graphing calculator for function analysis
32. Mean value theorem