

AP Calculus AB 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 slope)
10. Tangent lines
11. Derivatives rules and special functions
12. Chain Rule
13. Application of chain rule
14. Derivatives of generic functions using chain rule
15. Implicit differentiation
16. Related rates
17. Derivatives of inverses
18. Logarithmic differentiation
19. Determine function behavior (increasing, decreasing, concavity) given a function
20. Determine function behavior (increasing, decreasing, concavity) given a derivative graph
21. Interpret first and second derivative values in a table
22. Determining if tangent line approximations are over or under estimates
23. Finding critical points and determining if they are relative maximum, relative minimum, or neither
24. Second derivative test for relative maximum or minimum
25. Finding inflection points
26. Finding and justifying critical points from a derivative graph
27. Absolute maximum and minimum
28. Application of maximum and minimum
29. Motion derivatives
30. Vertical motion
31. Mean value theorem
32. Approximating area with rectangles and trapezoids given a function
33. Approximating area with rectangles and trapezoids given a table of values
34. Determining if area approximations are over or under estimates
35. Finding definite integrals graphically
36. Finding definite integrals using given integral values
37. Indefinite integrals with power rule or special derivatives
38. Integration with u-substitution
39. Evaluating definite integrals
40. Definite integrals with u-substitution
41. Solving initial value problems (separable differential equations)
42. Creating a slope field
43. Determining a function solution from a given slope field
44. Sketching a solution with a given slope field
45. Finding the average value of a function
46. Differentiating an integral
47. Integrating a derivative as a function
48. Finding velocity from acceleration using initial condition
49. Determining if motion is speeding up or slowing down
50. Finding displacement from velocity using initial condition
51. Finding total distance traveled from velocity
52. Mean value theorem for integrals
53. Area with finding points of intersection
54. Volume of revolution with disks
55. Volume of revolution with washers
56. Volume of revolution with change of variables
57. Volume of solid with known cross-sections
58. Accumulation problems
59. Interpreting derivatives or integrals of functions in context including correct units
60. Absolute maximum and minimum given a rate of change