

1. Know how to evaluate limits of functions algebraically, graphically, and numerically.
2. Know how to evaluate functions and limits of functions using piecewise functions.
3. Know the differences between limits involving infinity and infinite limits.
4. Know and understand the concept behind continuity here as using the 3 requirements of being continuous to prove or disprove continuity. Also, be able to evaluate continuity graphically and algebraically.
5. Know how to find horizontal asymptotes of functions algebraically and graphically. Be able to use the algebraic technique to get horizontal asymptotes.
6. Know the theory knowledge behind limits and continuity. Be able to answer multiple choice questions.
7. Know the difference between average rate of change (secant lines) and instantaneous rate of change (tangent lines).
8. Be able to find the slope between 2 points.
9. Be able to find the slope at 1 point.
10. Be able to write the equation of the secant line and/or equation of the tangent line using the slope-intercept form and point-slope form.
11. Be able to find derivatives of function using the limit definition.
12. Know the reason why the derivative function is important. Remember the process of finding the derivative is differentiation.
13. Know how to determine whether a function is differentiable.
14. Know the difference between differentiability, continuity, and limits existing.
15. Be able to estimate the slopes of tangent lines using numerical evidence (tables).
16. Know how to find the equation of the normal curve of the tangent line.
17. Be able to find slopes 2 points and at 1 point by using a data table (warm-up 2).

Know how to do the following in the calculator:

- graph a function (or multiple functions in the calculator)
- produce a table of values from a function
- estimate the slopes of tangents

EXAM FORMAT – 90 minutes

Part A- No calculator (≤ 55 minutes)

Section I: Multiple Choice

Section II: Free Response

Part B – Calculator (≥ 35 minutes)

Section I: Multiple Choice

Section II: Free Response