

- 1.) (i) Evaluate the limit of a rational function **algebraically (without tables)**. You should know how to factor polynomials. (Reference: Example 7 on page 83; Exercises 47, 51 and 53 on page 88.)
(ii) Evaluate the limit of a function with square roots **algebraically (without tables)**. (Reference: Example 8 on page 84; Exercises 55 and 57 on page 88.)
(iii) Evaluate the limit of a given **trigonometric** function **numerically (using tables)**. (Reference: Exercises 69, 73, and 77 on page 88.)
- 2.) Continuity and one-sided limits (Reference: Quiz 2.)
- 3.) Find vertical asymptotes for a rational function. (Reference: Example 3 on page 106; Exercises 11, 15, 19, 21, 23 on page 108.)
- 4.) Use **limit definition** (box on page 119) to find the derivative $f'(x)$ of a given function $f(x)$. (Reference: Example 3 on page 120; Quiz 3.)
- 5.) Use basic derivative formulas and rules (such as sum/difference, constant multiple, product and quotient rule) to differentiate various functions. Trigonometric functions, as well as a^x and $\log_a x$ **will be** included. (Reference: Homework assignments pertaining to Sections 3.2 and 3.3.)
- 6.) Find an equation of the tangent line to the graph of a given function. (Reference: Example 4 on page 129.)
- 7.) An applied problem (motion along a straight line) testing your understanding of the relationship between the position $s(t)$, velocity $v(t)$ and acceleration $a(t)$. (Reference: Example 11 on page 135; Example 10 on page 146; problem 93 on page 138.)