Essential Calculus

Enhancements

- 113 new questions
- Solutions screens have been improved throughout the product
- New Explain Error screens have been added to several sections and the existing ones have been improved
- Flexibility for user input has been increased
- Default curriculum has been updated such that a wider variety of questions are included
- Multiple choice questions have been added and the existing ones have been improved throughout the product

New Questions

- 1.4: Polynomials
  Added 6 new questions for factoring 2nd degree trinomials (like problems 42-45 in the textbook)
- 1.8: Functions and Models
  Added 7 new questions, all word problems, for modeling different types of application functions (like problems 35-39, 44-46, 49-54 in the textbook)
- 2.2b: Instantaneous Rate of Change and Interpreting Graphs
  Added 4 questions for finding the slope of a given function using the graphing calculator, coming from existing cases where iterations were split such that each one of them will include the same type of function
- 3.1: Product and Quotient Rules
  Added 1 question that is a simplified version of an existing question for finding the derivative of a given function using the quotient rule
- 3.4b: Critical Points and the First Derivative Test
  Added 3 new questions, word problems for finding the increasing and decreasing intervals (like problems 64-67, 76 in the textbook)
- 4.1a: Higher-Order Derivatives and Concavity
  Added 1 question for finding the second derivative of a given radical function and evaluating it at 3 given values (like problem 23 in the textbook)
- 4.1b: Higher-Order Derivatives: The Second Derivative Test
  Added 2 questions for finding the second derivative and using it to locate the local extrema, coming from an existing case where the iterations were split such that each one will have the same level of difficulty
- 4.2: Curve Sketching: Polynomial Functions
  Added 1 new question with 4 parts for finding the first and second derivatives of a 3rd degree polynomial function, the increasing and decreasing intervals, the concave up and concave down intervals, the local extrema (which always are integers) and the inflections points (like problems 21-24 in the textbook)
- 6.1: The Indefinitely Integral
  Added 13 new questions of varying level of difficulty for finding the indefinite integrals, 2 of them are word problems, business applications (like problems 13-14, 20-39, 51-54 in the textbook)
- 6.2: Integration by Substitution
  Added 8 new questions of varying level of difficulty to perform integration using the technique of substitution (like problems 14-17, 20, 23, 25-26, 28-29, 31, 34 in the textbook)
- 6.3b: The Definite Integral
  Added 6 new questions, 4 of them are applications of the average value and the other 2 are for finding the definite integral using the technique of substitution (like problems 25, 44-47 in the textbook)
- 6.4: Area (with Applications)
  Added 1 new question for finding the area bounded by the *x*-axis and a function on a given interval such that an intercept is within the interval (like problems 13-14 in the textbook)
- 6.5: Area Between Two Curves (with Applications)
  Added 8 new questions of varying level of difficulty for finding the area of a region bounded by the graphs of the given equations – for some of them the limits of integration are given and for the others the student needs to find them algebraically (like problems 1-16 in the textbook)

New Questions (continued)

- 7.4: Improper Integrals
  Added 15 new questions of varying level of difficulty for determining whether the given improper integrals are convergent or divergent and evaluating those which are convergent (like problems 11-30, 36, 38 in the textbook)

- 7.5: Probability
  Added 10 new questions such that 4 of them are for determining if the given function is a probability density function and the rest are applications problems for finding the probability and the expected value of a certain event (like problems 3-4, 9, 11-12, 15, 21-30 in the textbook)

- 8.1: Functions of Several Variables
  Added 4 new questions, all word problems, business applications of the functions of two variables (like problems 28-34 in the textbook)

- 8.2: Partial Derivatives
  Added 15 new questions for finding partial derivatives of exponential and logarithmic functions, for finding second-order partial derivatives and business applications of marginal productivity, marginal cost and profit (like problems 11-15, 21-22, 25-27, 33-34, 37, 39, 53-60 in the textbook)

- 8.3: Local Extrema for Functions of Two Variables
  Added 7 new questions such that 3 of them are for finding all the local maxima, local minima and saddle points always with integer x- and y-values (a simpler version of existing ones) and the other 4 are business applications for optimizing an equation in two variables of profit or revenue (like problems 25-30 in the textbook)

- 10.1: Infinite Sequences
  Added 1 question which is an improved version of an existing one such that all iterations have the same level of difficulty

General Changes

- Added new product specific icons that utilize the company logo.
- Improved Edit Course ID Window to assist user in entering the correct course ID:
  - Replaced “Course ID” with “Hawkes Course ID” in all places to help distinguish from a school’s course id.
  - Added a link “Find my Hawkes Course ID” that takes the user to our webpage where they can look up their course ID by school.
  - Added custom check and message for each of the following common issues: i) user is not connected to the internet, ii) user has entered a license number, iii) user has entered an access code.
  - Added a Help link that opens the pdf HLS Intenet Access for additional guidance.
  - Added on screen message indicating Hawkes Course ID will not contain numbers or spaces
  - Added a check box option for “Always Work Offline”
- Statistics ONLY: Added “Never Ask Again” check box option to warning that client Table of Contents does not match server Table of Contents.
- Hot words windows are now movable.
- Added title bar with close button to how word windows.
- “Product Tour” renamed “Video Tour” to be clearer.
- Added keyboard short cuts:
  -) enters () in text box (This is in addition to existing keyboard short cut of (.
  -] enters [] in text box (This is in addition to existing keyboard shortcut of [.)
  - } enters {} in text box (This is in addition to existing keyboard short cut of {.)
  - Ctrl+(enters (] in text box
  - Ctrl+) enters [) in text box
  - Ctrl+[enters [) in text box
  - Ctrl+] enters (] in text box
- Online grade book link compatible with browsers other than Internet Explorer.
- Statistics ONLY – If change Table of contents, Table of Contents name updates in courseware title and title bar of Instructor menu without having to exit and reenter software.
- Introductory and Intermediate Algebra student courseware link and Online Grade link no longer touch at resolution 1600 x 900 on Instructor menu.
- Statistics Only – Added warning if client table of contents and server table of contents do not match when click on Lesson Editor and WebTest links on Instructor menu.