Errata in The Cartoon Guide to Calculus (older editions)

p. 13. IN THE THIRD PANEL SHOWING BALLOON INFLATION, THE FORMULA FOR THE SPHERE'S VOLUME SHOULD HAVE r CUBED, NOT SQUARED:

$$V = \frac{4}{3}\pi r^3$$

p. 33. IN THE TABLE, THE LAST ENTRY OF THE SECOND ROW, FOR x^2, SHOULD BE 1, NOT 2.

p. 43. CENTRAL PANEL SHOULD READ: "AN INCREASING FUNCTION HAS A GRAPH THAT GOES UPHILL AS THE VARIABLE MOVES TO THE RIGHT. A **DECREASING** FUNCTION GOES DOWNHILL."

p. 45. LEFT COLUMN, LINE 13, SHOULD READ "IN PARTICULAR, WHEN $p = -1$,"

p. 52. PROBLEM 13 WAS DRAWN UP INCORRECTLY. SKIP IT!

p. 76. PROBLEM 12 SHOULD ASK FOR AN INTERVAL J SUCH THAT IF x IS IN J, THEN $|f(x)| > |L/2|$ (WITH ABSOLUTE VALUE SIGNS AROUND $L/2$).

p. 97. LAST LINE ON PAGE INSIDE BOX SHOULD READ "APPLYING ***3a.***"

p. 100. PROBLEMS 3, 5, 9, 14*a* AND 15*b* DON'T BELONG HERE! THEY DEPEND ON MATERIAL COVERED IN THE FOLLOWING CHAPTER.

p. 103. IN THE SECOND EXAMPLE, WHERE $G(x) = \sin(x^2)$, THE DERIVATIVE SHOULD BE $G'(x) = 2x\cos(x^2)$.

IN THE THIRD EXAMPLE, THE INSIDE FUNCTION SHOULD BE IDENTIFIED AS $u(x) = 2x^3 + 3$, NOT $2x^3 + 8$. THE ANSWER IN BOLDFACE IS CORRECT.

p. 108. IN EXAMPLE 4. LINE 4 SHOULD END WITH $F'(x) = -2x(\frac{1}{2})(1 - x^2)^{-\frac{1}{2}}$ (MINUS, NOT PLUS, INSIDE PARENTHESES). FINAL ANSWER IS CORRECT.

p. 116. PROBLEM 3*i* SHOULD SAY $u(t)$ RATHER THAN $u(x)$.

p. 124. PROBLEM 1 HAS TWO ISSUES: FIRST, THE FORMULA FOR THE VOLUME OF WATER IS UNNECESSARILY COMPLICATED AND SHOULD BE

$$V = \pi(Rh^2 - \tfrac{1}{3}h^3)$$

SECOND, THE PROBLEM ASKS FOR $h'(t)$ IN TERMS OF V' AND y. IT SHOULD SAY "IN TERMS OF V' AND h."

p. 129. AT THE BOTTOM OF THE PAGE, $h(10.2)$ IS EVALUATED INCORRECTLY. THE EXPRESSION IS RIGHT, BUT THE ANSWER SHOULD BE $\approx$ **511.2** METERS, NOT 1,125. (WHAT WAS I THINKING?)

p.130. ON THE LEFT-HAND GRAPH, THE TOP OF THE CURVE SHOULD BE MARKED AS 511.2 METERS, NOT 1,125.

p. 144, PROBLEM 5. POINT ON RIGHT-HAND SIDE OF CIRCLE IS MISLABELED. (0, 1) SHOULD HAVE BEEN (1, 0).

p. 151, UPPER EXAMPLE: RESULT IS CORRECT, BUT RIGHT PANEL SHOULD HAVE

$$\frac{d}{dx}(\sin 2x) = 2\cos 2x$$

p. 160. PROBLEM 11 SHOULD SAY THE INTERVAL (1, 3) AND ASK YOU TO SHOW THAT THERE IS NO VALUE OF c ON THE INTERVAL SUCH THAT $f(3) - f(1) = f'(c)(3 - 1)$.

p. 168. PROBLEM 3: "SPLITTING THE DIFFERENCE" MEANS TAKING THE AVERAGE OF THE TWO VALUES, I.E., $(E_{HIGH} + E_{LOW})/2$, WITH A PLUS SIGN, NOT A MINUS.

p. 186, PROBLEM 2. IN THE FIRST FORMULA FOR S_n, $1/n$ SHOULD BE T/n.

p. 190. THE PROOF SHOULD BEGIN, "IF **A** HAS A DERIVATIVE..."

p. 198, EXAMPLE 3 HAS ALGEBRA MISTAKES. u SHOULD BE $\frac{1}{2}(v + 3)$, NOT $\frac{1}{2}(v - 3)$, AND THE FACTOR $\frac{1}{4}$ SHOULD DISTRIBUTE OVER THE WHOLE INTEGRAL. CORRECT ANSWER:

$$\frac{(2u-3)^{5/2}}{10} + \frac{(2u-3)^{3/2}}{2} + C$$

p. 215. FIRST PANEL, SECOND PARAGRAPH SAYS "(AGAIN... FETUCCINE...)" THE WORD "AGAIN" IS MEANT TO REFER TO THE THIN RIBBON DESCRIBED ON p. 209, EVEN THOUGH FETUCCINE ISN'T SPECIFICALLY MENTIONED THERE.

p. 223, SECOND PANEL. THE NAME OF THE STREET IS **EASY** STREET, NOT MEAN STREET. EASY, EASY, EASY!

p. 227. THE FINAL, BOLDFACE INTEGRAL OMITS A FACTOR OF x. THE CORRECT INTEGRAL IS

$$\int_0^D 9.8xW(x)\,dx$$

p. 228, PROBLEM 1. IN THE DIAGRAM, THE HEIGHT D SHOULD BE $R - D$. FOR THE VOLUME ABOVE THE WATER, THE LIMITS OF INTEGRATION SHOULD BE 0 AND $R - D$:

$$\int_0^{R-D} \pi(R^2 - y^2)\,dy$$

THE VOLUME OF WATER SHOULD MATCH NOT THE HIDEOUS FORMULA ON P. 124, BUT RATHER THE ONE IN THIS ERRATA SHEET, WITH D IN PLACE OF h, I.E.

$$\pi(RD^2 - \tfrac{1}{3}D^3)$$

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