Errata, Fourth Edition, Garner's *Calculus*

p. 9, line -3: "reciprocals"

p. 23, line -5: "aesthetically"

p. 26, line -10: "bacteria"

p. 28, line 9: "an" at the beginning of the line

p. 43, solution to Example 11, line 3: water level was at its *lowest* point; this changes the function to $f(t) = 4 - 4\cos\left(\frac{\pi}{6}t\right)$. The functions in Examples 12 and 13 are changed similarly.

p. 44, Problem 1 (a) and (b): replace "rotation" with "revolution"

p. 44. Problem 2: Derive the following identities, *following the outline in the text*:

p. 50, line 6: delete "Recall and"; line -3: remove extra comma

p. 61, line –3: Put a space after "thus".

p. 92, lines –1 and –3: Replace "lapsed" with "elapsed".

p. 118, Problem 19(b): ... definition *of* limit ...

p. 120, line -1: omit "if"

p. 179, line 10: Put a space between "by" and "Thm".

p. 182, Example 55: Solutions are $x = 1 \pm \sqrt{2}$, so the tangent line has slope 3 at $(1 + \sqrt{2}, -\sqrt{2})$ and at $(1 - \sqrt{2}, \sqrt{2})$.

p. 182: Comma after line –2 and period after line -1.

p. 189: Period after equation (3.23).

p. 197: Period after line –1.

p. 205, line –1: capitalize "this"

p. 214, line 2: "each"

p. 220, line -14: "Kenelly"

p. 230, line 5: capital M on "mean"

p. 237, Theorem 66 (4): Period at the end instead of a semicolon.

p. 245, Problem 13(c): Use Exercise 8...

p. 257, Figure 4.28: The caption is "The lifeguard's path"

p. 311, Spotlight Exercise 1, line 1: omit "a"

p. 361, line 8: Italicize n.

p. 372, line 12 (Objective 5): "... in terms of *areas*"

p. 394, line 5: "... of a function *over* an interval."

p. 397, lines -6 and -7: change RHS to R_f and LHS to L_f

p. 431, Problem 6: Insert $\lim_{h \to 0}$ after "Find".

p. 482, line 3: Replace comma with a decimal point.

p. 515, Problem 4(f): Insert a comma after "pyramid".

p. 606, Problem 8: Change "noon" to "5 o'clock".

p. 628: Example 248 is misplaced; it should follow Example 252 on p. 633.

p. 637, Problem 22: "Use" rather than "Using"

p. 637, Section 9.6: Prerequisites and Objectives should follow the section title immediately.

p. 710, Objective 2: Omit "the".

p. 751, Problem 18(c): change $\|\vec{u} + \vec{b}\|$ to $\|\vec{u} + \vec{v}\|$

p. 767, line 12: omit extraneous right parenthesis

p. 779, line 7: Replace $\vec{v}(PQ)$ with $\overrightarrow{PQ}$.

p. 786, lines 11 and 13: Replace $\vec{v}(PQ)$ with $\overrightarrow{PQ}$.

p. 794, line –1: ... function *whose derivative* is nowhere ...

p. 805, lines 14 and -3: $e^{-(k/m)t}$, not e^{-kt}

p. 809, equation (11.82): insert an arrow over the first r

p. 812, line 11: second component is $2 - 18t^4$

p. 814, line 3: $[\rho(0)]^2$ (insert right parenthesis)

p. 831, Solutions 4, last line: "... per mile *in* steepness ..."

p. 838, Problem 5(b) double quote mark

p. 845, Definition 37: ... limit of $f(x, y)$ as ...

p. 846, Theorem 141, and p. 850, Problem 4: second limit involves (a, b), not $(0, 0)$

p. 847, Definition 38: ... let $c \in \mathbb{R}^n$ be in the domain of f. Also omit "$0 <$" in the third line.

p. 849, Problem 3(i): x^2

p. 856, line -1: last vector is $\langle 1, -\frac{\pi}{2}, -1 \rangle$

p. 859, Problems 6(b) and (d): Insert a space after the function.

p. 861, line -7: set $h \to 0$ under second lim

p. 863, line -6: omit "each"

p. 866, line –4: lower case u on "using"

p. 866, line -8: $405t^2$, not $135t^2$

p. 869, Problem 10(e): capitalize "the"

p. 874, Problem 2: ... map *of* the function ...

p. 892, line -8: numerator of f_{xx} is $2(3x^2 - 1)\cos y$

p. 895, line 7: $f(0, 1)$, not $f(1, 0)$

p. 899. line 3: "exercise"

p. 908, line –14: Insert space after "0,".

p. 917, line 15: "open" ball; line 25: "squares"

p. 920, Problem 3(a): $(x, y) \to (1, 2)$, not to $(0, 0)$.

p. 926, line 10: "sides"

pp. 932-937: All occurrences of Type x and Type y should have x and y italicized.

p. 937, line -5: $z = f(x, y)$, not $z - f(x, y)$

p. 939, Problem 2(d): Supply the missing bracket on [1, 2].

p. 940, Problem 8: last integral should be a double integral

p. 943, line 15: "Type r"

p. 944, line -4: capitalize "v"; line -10: "rectangular"

p. 947, Problems 1(a) and 3(b): "Type x"

p. 956, line –3: The result should be $\frac{1}{4}\pi a^4$.

p. 959, Problem 8: insert a space between "with" and "a"

p. 960, line 15: "express"

p. 964, problem 11 (b): lower limit on middle integral should be $-\sqrt{1-x^2}$

p. 966, line 4: ρ for rho; line 8: remove extra comma

p. 968, line 1: "Type xy"; Problem 4: Insert space after "Exercise".

p. 969, Problem 7(b): ... radius a ...

p. 978, Problem 1(k): Insert comma after $r \sin\theta$.

p. 983, line –4: "collection" (singular)

p. 994, Problems 4(d) and 5(f): Delete the comments in brackets.

p. 997, line –16: ... and $\vec{r}\,'$ is nonzero.

p. 1004, lines 12, 16, and 21: capital F should be lower case f throughout.

p. 1004, line 16: right-hand side integrand should be $\vec{\nabla} f(\vec{r}_i(t)) \cdot \vec{r}_i\,'(t)\, dt$

p. 1007, line 6: space between page and 989

p. 1009, Problem 1(t): Remove the last parenthesis.

p. 1010, Problems 3(i)–(l): $\vec{F}(x, y, z)$ instead of $\vec{F}(x, y)$

p. 1014, line 8: "Type x"

p. 1020, line –1: "continuous"

p. 1021, Definition 4: "with" should not be in italics.

p. 1026, Problem 1(n): Replace with $S : z = \frac{x^2}{9} + \frac{y^2}{4}, 0 \le x \le 3, 0 \le y \le 2$. [Estimate.]

p. 1028. line 5: ... continuously differentiable and *their derivatives are* nonzero.

p. 1035, line 9: Add the sentence, "We also assume that $\vec{r}$ is a one-to-one function as discussed in Section 13.7, p. 971."

p. 1036, line 3: ... continuous *nonzero* function ...

p. 1036, line 8: Interchange the u's and v's; lines 10 and 11: interchange the partial derivative symbols $\dfrac{\partial \vec{r}}{\partial v}$ and $\dfrac{\partial \vec{r}}{\partial u}$; line 12: insert negative signs in all components.

p. 1043, Problems 4(g),(h),(i): Omit; relabel 4(j) as 4(g).

p. 1059, line –13: insert a comma between $\cos\beta$ and $\cos\gamma$

p. 1060, line 2: ... because *there is no flux through* the "sides" ...

p. 1063, Problem 8: "Consider"

p. 1063, line –6: "circulation"

p. 1068, line 16: "circulation" instead of "flux"; line 17: replace = with "is in the direction of"

p. 1069, line –6: xz-plane

p. 1077, lines 3–8: Replace with: "If $\operatorname{curl} \vec{F} = \vec{G}$, we call $\vec{F}$ the *vector potential* of $\vec{G}$. If $\vec{G} = \langle P, Q, R \rangle$ is solenoidal (see Problem 4, p. 1062) and its domain is suitable, we can find a vector potential $\vec{F} = \langle U, V, W \rangle$ as follows: If $R_z \neq 0$, let U be any antiderivative of Q with respect to z, let V be the negative of an antiderivative of P with respect to z, and let W be a constant. If $R_z = 0$, let U be the difference of an antiderivative of Q with respect to z and an antiderivative of R with respect to y, and choose V and W as before. It is clear that a vector potential of $\vec{G}$ is not unique.

p. 1077, Example 447: Verify that $\vec{G}$ is *solenoidal* ...

p. 1080, line 13: Add "vector potential".

p. 1080, Problem 1(b): The first integrand should be $\vec{F} \cdot d\vec{r}$.

p. 1093, line 4: change second "in" to "is"

p. 1095, line 8: change first "had" to "he"

p. 1096, GFB Riemann, line 1: Remove the comma.

p. 1108, line 1: Move the heading Section 2.4 out to the margin.

p. 1123, Figure 35: The second set of graphs should be labeled (d).

p. 1125, Problem 8(a): moles/kg

p. 1130, Section 6.6, Problem 6(a): Supply the missing left parenthesis.

p. 1130, Figure 38: ... for Problem 6.6.15.

p. 1133, Section 7.5, Problem 2(e): Supply missing right parenthesis before "$+C$"

p. 1135, Section 8.3, Problem 5(a): $\frac{\pi}{3}$; Problem 5(c): $\pi(2e - \frac{1}{2}e^2 - \frac{7}{6})$; Problem 8(b) $\frac{1}{4}\pi s^2(s + 2r\sqrt{3})$.

p. 1136, Section 8.7, Problem 2(i): on axis of symmetry, distance $\frac{1}{8}L\sqrt{3}$ from vee

p. 1138, Section 9.1, Problem 7: Statement given is for an increasing function. Reverse for a decreasing function.

p. 1139, Section 9.3, Problem 1(e): the second *and third* converge by comparison...

p. 1139, Section 9.4, Problem 1(e): All *but the second* converge ...

p. 1140, Section 9.6, Problem 3(g): Converges in $(-3.1, -2.9)$

p. 1140, Section 9.7, Problem 1(k): $x + (1 - x)\ln(1 - x)$

p. 1141, Section 9.8, Problem 1(i): interval should be $[-1, 1)$

p. 1141, Section 9.9, Problem 2(a): last exponent shown should be 2

p. 1146, line -4: add "g-cm"; line -3: add "coulombs"; line -1: last term is $\|\vec{v}\|^2$

p. 1154, Section 13.8, Problem 5(a): $e + \frac{1}{8}e^2 - \frac{7}{8}$; Problem 7(c): $m = \frac{272}{15}, (\bar{x}, \bar{y}) = (\frac{55}{68}, \frac{324}{119})$.

p. 1156, Problem 4(b): Omit.

p. 1157, Section 15.1, Problem 5: "$-$" instead of "$+$"; Section 15.3, Problem 4(b): divide the third component by $x^2 + y^2$.