

ERRATA SHEET AS OF 12/15/23

Date	Page	Reference	Change
9/11/19	Pref xvi	Line 14	Change http://www-gap.dcs.st-and.ac.uk/~history/ to https://www-history.mcs.st-and.ac.uk/
11/10/22	1	example	$V = 0.100 \text{ m}^3$ should be $V = 0.100 \text{ L}$
9/3/18	6	Part b line 10	"The absolute maximum is $f(1)=4-e$ "
1/15/17	10		$0.99994984 < 0.99995 - 1.6 \times 10^{-7} \leq \cos(0.01) \leq 0.99995 + 1.6 \times 10^{-7} < 0.99995016$
9/6/15	37	Exercise 12	delete $\equiv \widetilde{F}_n$
9/6/15			change exponent n to $n+1$ in 2 places
1/19/16	53	Exercise 6b	$0 \leq x \leq 1$ should be $1 \leq x \leq 2$
9/11/19	62	Line 6	Theorem 2.3 should be Theorem 2.4
9/11/19	68	Solution of the Example 1 (point b) – line 3	$p_1 = p_0 - \frac{p_0}{f'(p_0)}$ should be $p_1 = p_0 - \frac{f(p_0)}{f'(p_0)}$
7/31/18	72	Line 2	$p_2 = p_1 - \frac{(p_1 - p_0)(\cos p_1 - p_1)}{(\cos p_1 - p_1)(\cos p_2 - p_2)}$ should be $p_2 = p_1 - \frac{(p_1 - p_0)(\cos p_1 - p_1)}{(\cos p_1 - p_1)(\cos p_0 - p_0)}$
9/6/15	76	Exercise 25	change each year by adding 10
9/6/15		line 2	1960, 1970 and
9/6/15		line 3	1980
9/6/15		line 4	in 1990 and in 2020
9/6/15		line 5	$t=0$ at 1960 ... the 1990
9/11/19	89	Line 2 above the Theorem 2.15	Theorem 2.14 should be Theorem 2.15
9/14/15	90	Exercise 16	Express $\frac{(\widehat{p}_{n+1} - p)}{(p_n - p)}$ in terms of ...

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11/13/22	112	Example 4- line 5 & 6	Line 5: $g(jh + h/2) = - (h/2)^2 = - h^2/4$ Line 6: $ g'(x) $ should be $ g(x) $.
10/19/16	112	Exercise 1	Change $x_1 = 0.6$ to $x_1 = 0.3$
3/6/20	112	Exercise 5c	$f(0.1) = 0.62049958$ should be $f(0.1) = -0.62049958$
9/11/19	135	Line 5	for each i should be for each $i=j$
9/11/19	154	Line 8 from the bottom	$f''(0) = e^1 = 1$ should be $f''(0) = e^0 = 1$
9/6/15	180	Exercise 2a	x-values down first column should be -0.3, -0.2, -0.1
10/27/16	184	Eq 4.12	The N_2 should be an N_1
1/6/16	189	Exercise 1	Change Example 1 to Example 2 in exercise directions.
4/19/19	219	Illustration	$y'' + 6y' + 25 = 0$ should be $y'' + 6y' + 25y = 0$
4/19/19	244	Above Algorithm 4.5	$\int_a^b \frac{d(x) - c(x)}{2} \sum_{j=1}^n c_{n,j} f\left(x, \frac{(d(x) - c(x))r_{n,j} + d(x) + c(x)}{2} \cdot \frac{d(x) - c(x)}{2}\right) dx$
4/19/19	256	Exercise 7	Delete = 0 after the integral
9/11/19	261	Line 3	Remove the extra comma after y_2 in $f(t, y_2,)$
9/11/19	271	Line 1	“a bound be known for” should be “a bound should be known for”
9/6/15	273	Exercise 4c	Error bounds in last column should be 0.04698395228, 0.09753731185, 0.1519312501, 0.2104575376
9/11/19	275	Section 5.3 line 1	“object of a numerical techniques is” should be “object of numerical techniques”
9/11/19	278	Line 2	Change the value of 0.2 in both sets of parentheses to 1
9/11/19	279	Line 2	Change the value of 0.2 in both sets of parentheses to 1
9/11/19	279	Line 9	“Taylor method of order four approximations at” should be “Taylor method of order 4 with approximations at”
9/11/19	287	Lines 4 & 7	Change the value of 0.2 in both sets of parentheses to 1
9/6/15	300	Exercise 2	Actual Solution: $a : y(t) = \frac{t}{1-\log(t)}; b : y(t) = 2 - \cos(t) - e^{-t}; c : y(t) = \frac{2t}{1-t}; d : y(t) = t^3/3$
9/11/19	303	Line 7 from bottom	Change “more accurate then” to “more accurate than”
9/11/19	303	Line 3 above example 1	Change (5.25) to (5.26)

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9/11/19	303	Line 8 from bottom	 2.1272027 – 2.1272892 should be 2.1272027 – 2.1272295
9/11/19	304	Line 8 from the bottom	Change “need” to “need” and remove the second “solve” in “we need to solve the equation explicitly solve for”
9/6/15	321	Exercise 2	Actual Solution: $a : y(t) = \frac{t}{1-\log(t)}; b : y(t) = 2 - \cos(t) - e^{-t}; c : y(t) = \frac{2t}{1-t}; d : y(t) = t^3/3$
9/6/15	329	Exercise 2	Actual Solution: $a : y(t) = \frac{t}{1-\log(t)}; b : y(t) = 2 - \cos(t) - e^{-t}; c : y(t) = \frac{2t}{1-t}; d : y(t) = t^3/3$
4/19/19	345	Line below 5.58	“the by” should be “by the”
9/6/15	375	Exercise 18	change reference from Exercise 12 to Exercise 14
9/6/15		Exercise 19	change reference from Exercise 16 to Exercise 18
11/30/16	406	Example 1	$n = 20$ should be $n = 10$
9/6/15		Exercise 20	change reference from Exercise 16 to Exercise 18
9/11/19	428	Example 5 solution	Second entry in the first row of matrix A should be “ a_{12} ” instead of “0”
9/6/15	468		last row of matrix at top of page should be [0 0 0 0 0 0 0 -1 0 0 -1 4]
9/11/19	488	Line 16	“to prove Theorem 7.31” should be “to prove in Theorem 7.31”
9/11/19	488	Line 19	“Then.” should be “Then”
9/11/19	495	Line 8	First occurrence of $\hat{v}^{(k)}$ should be bold
9/11/19	496	Step 8 line 1	n should be N
9/6/15	534	Exercise 4	Should read: “Repeat Exercise 3 for the approximations completed in Exercise 2.”
9/6/15	623	Exercise 12	should be: $(AP)_{r,s} = \begin{cases} a_{r,s} & \text{if } s \neq i, j \\ (\cos \theta)a_{r,j} + (\sin \theta)a_{r,i} & \text{if } s = j \\ (\sin \theta)a_{r,i} - (\sin \theta)a_{r,j} & \text{if } s = i \end{cases}$ $(PA)_{r,s} = \begin{cases} a_{r,s} & \text{if } r \neq i, j \\ (\cos \theta)a_{j,s} - (\sin \theta)a_{i,s} & \text{if } r = j \\ (\sin \theta)a_{j,s} + (\sin \theta)a_{i,s} & \text{if } r = i \end{cases}$
9/6/15	630		The third bullet point near the bottom should read <ul style="list-style-type: none"> Find $\{\mathbf{u}_1, \mathbf{u}_2, \dots, \mathbf{u}_k\}$ as described on page 628. Add to this set the orthonormal eigenvectors $\{\mathbf{u}_{k+1}, \dots, \mathbf{u}_m\}$ for the zero eigenvalues of AA^t. These vectors form the columns of the $m \times m$ orthogonal matrix U.
9/6/15	650	Exercise 10	Change index on summation as follows: $\sum_{j=1}^3 \alpha_{ij} x_j(t)$

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9/6/15	665	Exercise 8	Change index on summation as follows: $\sum_{j=1}^3 \alpha_{ij} x_j(t)$
10/17/15	789	1.2 #23 a, b	a) $x = 67.42$, $y = 8.869$ b) $x = -0.01211$, $y = -0.003181$
9/6/15	792	Exercise 3d	Change to “Parts (a) and (d) seem promising.”
9/6/15	794	Exercise 25	We have $P_L = 363432.8272$, $c = -1.026693803$, $k = 0.026504522$. The 1990 population is $P(30) = 248319$ and the 2020 population is $P(60) = 300528$. Since the 1990 population is predicted to be 248319 and the actual 1990 population is 249633, our prediction is too low. So maybe the 2020 prediction is too low.
9/6/15	808	Exercise 15	Replace (4.23) with (4.25) and replace (4.30) with (4.32)
9/6/15	808	Exercise 17	Delete the table header. Change (4.23) (4.24) (4.26) (4.27) (4.29) to (4.25) (4.26) (4.28) (4.29) (4.31)
9/6/15	838	Exercise 9	Change all occurrences of \bar{x} to \mathbf{x} . Change all occurrences of \bar{y} to \mathbf{y} .
9/6/15	847	Exercise 7	Change (9b) to (1b) and change (9c) to (1c)
7/3/16	847	Set 7.4 Exercise 1a	Change answer to (0.05410079, -0.2115435, 0.6477159)
9/6/15	856	Set 8.2 Exercise 9	Change all occurrences of $P_2(x)$ to $P_3(x)$
9/6/15	858	Exercise 13	Change all occurrences of x'_0 to \bar{x}'_0 ; x'_k to \bar{x}'_k ; x'_n to \bar{x}'_n
9/6/15	867	Exercise 1f	Change entry $a_{4,4}$ from 0.317424 to 0.347424
9/6/15	873	Set 10.3 Exercise 5	Change all four occurrences of $\mathbf{x}(0)$ to $\mathbf{x}^{(0)}$
9/6/15	878	Exercise 5	Delete the “b.”
9/6/15	882	Exercise 3	Delete the “a.”
12/15/23	Bk	formulas	Law of Sines should read $\frac{\sin(\alpha)}{a} = \frac{\sin(\beta)}{b} = \frac{\sin(\gamma)}{c}$

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