Deng-2018 Book Errata

Last Update: Tuesday, October 4, 2022

- In Deng-2018, typesetting errors appear frequently and this table lists what we found. Line numbers are approximate.
- Text me at 631-877-7979 if you see errors in this errata or additional errors in Deng-2018.
- For every five additional errors you find in Deng-2018, I will order you a copy of the book.

Page	Line	Formula with Typo(s)	Formula Corrected
26	14	$y' = 2(xy' + y)y^3$	$y' = 2(-xy' + y)y^3$
35	16	$y^2(xy' + 1)(1+x^4)^{\frac{1}{2}} = x$	$y^2(xy' + y)(1+x^4)^{\frac{1}{2}} = x$
40	17	$(x) = 1 + x^2$	$A_0(x) = 1 + x^2$
87	14	$= \dfrac{M}{1 - \frac{1}{C_1}\exp(-Mkt)}$	$= \dfrac{M}{1 - \frac{1}{C_1}\exp(Mkt)}$
87	16	$1 - \dfrac{1}{C_1}\exp(-Mkt) = 0$	$1 - \dfrac{1}{C_1}\exp(Mkt) = 0$ (same as above)
89	-2	Solving	Prove that
104	-5	$v_r = 245$	$v_T = -245$
117	~9	$x_0 + \left(\dfrac{v}{k}\right)(1 - \exp(-kt))$	$x_0 + \left(\dfrac{v_0}{k}\right)(1 - \exp(-kt))$
128	Fig 2.20	Wind velocity w pointing (north) upward	Wind velocity w pointing (south) downward
185	Prob. 3.3.17 (2)	$\cdots (D - r_n)^{k_n}[] = 0$	$\cdots (D - r_n)^{k_n} y(x) = 0$
195	9	$x\sin(3x)$	$xe^{-2x}\sin(3x)$
195	18	$x\sin(3x)$	$xe^{-2x}\sin(3x)$
207	Prob. 3.4.7	$(x^2 + 1)\sin(\omega x)$	$(x + 1)\sin(\omega x)$
213	5 2nd DE of (4.6)	$b_1(t)$	$b_2(t)$
228	~15	$3 \times (4.33) + (\mathcal{D} + 7) \times (4.34)$	$(\mathcal{D} + 7)(4.33) + 3 \times (4.34)$
238	-8	$V_1 = \begin{pmatrix} 1 \\ -i \end{pmatrix}$	$V_2 = \begin{pmatrix} 1 \\ -i \end{pmatrix}$
244	6	$\lambda = 1$	$\lambda = 2$
256	Eq (4.62)	$= cx + exy$	$= cy + exy$
265	-1	$-\dfrac{1}{s}\displaystyle\int_0^\infty t\, e^{-st}\, dt$	$-\dfrac{1}{s}\displaystyle\int_0^\infty t\, d(e^{-st})$
288	3	$\dfrac{1}{(s^2 + l^2)^2}$	$\dfrac{1}{(s^2 + k^2)^2}$
288	5	$\mathcal{L}[k\cos(kt)]$	$\mathcal{L}[t\cos(kt)]$
291	2	$\displaystyle\int_0^\infty e^{-st_1}\, u(t_1)g(t_1)dt_1$	$\displaystyle\int_0^\infty e^{-st_1}\, u(t_1)g(t_1)dt_1 \int_0^\infty e^{-s\tau} f(\tau)d\tau$

298	~20		$x(t) = \frac{307}{294}\exp(-3t) + \frac{1228}{1225}\exp(4t) - \frac{7}{150}\cos 3t - \frac{1}{150}\sin 3t + \frac{1}{7}t\exp(4t)$
302	21	$+4\int_0^t e^{-\tau}\sin 2\tau\, d\tau$	$-4\int_0^t e^{-\tau}\sin 2\tau\, d\tau$
302	26	$e^{-t}I$	$e^{t}I$
302	-1	$e^{-t}I = -\frac{1}{5}(\sin 2t + 2\cos 2t) + \frac{2}{5}e^{-t}$	$e^{t}I = -\frac{1}{5}(\sin 2t + 2\cos 2t) + \frac{2}{5}e^{t}$
306	1		$-\frac{\cos(\omega t) - \cos(\omega_1 t)}{\omega^2 - \omega_1^2}$
306	12	$\big((s+1)\mathcal{L}\{\cos t\} - 4\mathcal{L}\{\sin t\}\big)$	$\big((s+1)\mathcal{L}\{\cos t\} + 4\mathcal{L}\{\sin t\}\big)$
307	15	e^{-3t}	$4e^{-3t}$
307	-2	$\frac{e^{-3t} - e^{t}}{-3-1}$	$4\frac{e^{-3t} - e^{t}}{-3-1}$
307	-1		$\frac{1}{5}(e^{2t} - e^{-3t})$
310	5.5.17	$x'' + 2x' + x$	$x'' - 2x' + x$
332	-1	$\frac{1}{2}\int(1 - \cos 2\theta)d\theta$	$\frac{1}{2}\int(1 + \cos 2\theta)d\theta$
333	1	$\frac{\theta}{2} - \frac{\sin 2\theta}{4} + C$	$\frac{\theta}{2} - \frac{\sin 2\theta}{4} + C$
333	2	$\frac{1}{2}(\theta - \sin\theta\cos\theta) + C$	$\frac{1}{2}(\theta + \sin\theta\cos\theta) + C$
333	3	$\frac{1}{2}\left(\theta - \frac{\tan\theta}{\sec^2\theta}\right) + C$	$\frac{1}{2}\left(\theta + \frac{\tan\theta}{\sec^2\theta}\right) + C$
335	8	$\left(\frac{dx}{dy}\right)^{-1} = 2xy^3\left(\frac{dx}{dy}\right)^{-1} + 2y^4$	$\left(\frac{dx}{dy}\right)^{-1} = -2xy^3\left(\frac{dx}{dy}\right)^{-1} + 2y^4$ This fix will match with p26 line 14. Only one of the two is necessary.
343	12	$\ln\frac{(u^3 - u + 1)(u+1)}{u} = -\ln x + C_1$	$\ln\frac{(u^2 - u + 1)(u+1)}{u} = -\ln x + C_1$
354	3	$\frac{1}{\beta}\arctan(u) + \frac{1}{2}\ln\lvert 1+u^2\rvert = \ln t + C$	$\frac{1}{\beta}\arctan(u) - \frac{1}{2}\ln\lvert 1+u^2\rvert = \ln t + C$
370	-3	$(x^2+1)^{-\frac{1}{2}}$	$(x^2+1)^{\frac{1}{2}}$
371	3	$= 2x(x^2+1)^{-\frac{1}{2}}$	$= 2x(x^2+1)^{\frac{1}{2}}$
381	-2	dx	dy
383	11	6.23%	62.3%
397	-3	$r(t=0) = 0$	$r(t=0) = R$
413	12	$\sqrt{1+u}$	$\sqrt{1+u^2}$
427	13, 18	$Z = \frac{Q_0}{r^2} + \frac{Q_0 t}{r} + C\exp(-rt)$	$Z = \frac{Q_0}{r^2} + \frac{Q_0 t}{r} + C\exp(rt)$
440	3, 8	$\frac{W(t)}{dt}$	$\frac{dW(t)}{dt}$

440	16	$\times$	$=$
451	3	$r_{1,2,\ldots,8} = 1, \ldots 3 \ldots$	$r_{1,2,3,4,5,6,7,8}$ $= 1, 1, 1, 2, 2, 3, \pm 3i$
462	-7	$y_C = c_1 \cos \omega t + c_2 \sin \omega t$	$y_C = c_1 \cos \omega x + c_2 \sin \omega x$
472	1 (2,4)	$A = \dfrac{1}{\omega^2}$	$A = \dfrac{1}{2\omega^2}$
474	2	$y_C(x)) = C_1 + C_2 \cos x$	$y_C(x)$
479	15	$\dfrac{3}{5} e^{4t}$	$-\dfrac{3}{5} e^{4t}$
479	17	$\dfrac{3}{5} e^{4t}$	$-\dfrac{3}{5} e^{4t}$
479	20	$C_1 + \dfrac{3}{5}$	$C_1 - \dfrac{3}{5}$
502	2,7	$\begin{pmatrix} \eta_1 \\ \eta_2 \end{pmatrix}'$	$\begin{pmatrix} \eta_1 \\ \eta_2 \end{pmatrix}$
502	2	$\begin{pmatrix} \eta_1 \\ \eta_2 \end{pmatrix} = \begin{pmatrix} -i \\ 1 \end{pmatrix}$	$\begin{pmatrix} \eta_1 \\ \eta_2 \end{pmatrix} = \begin{pmatrix} i \\ 1 \end{pmatrix}$
502	7	$\begin{pmatrix} \eta_1 \\ \eta_2 \end{pmatrix} = \begin{pmatrix} i \\ 1 \end{pmatrix}$	$\begin{pmatrix} \eta_1 \\ \eta_2 \end{pmatrix} = \begin{pmatrix} -i \\ 1 \end{pmatrix}$
503	-3	$E_1 = \dfrac{1}{2} \begin{pmatrix} 0 \\ -3 \end{pmatrix}$	$E_1 = \dfrac{1}{2} \begin{pmatrix} -3 \\ 0 \end{pmatrix}$
530	20	e^{2t}	e^{t}
530	-1	$2s^2 + 4s + 13$	$2s^2 + 4s + 3$
552	4	$\dfrac{d}{dx}(\tan u) = \sec^2 u$	$\dfrac{d}{dx}(\tan x) = \sec^2 x$