

**Errata for
Introduction to Partial Differential Equations
with MATLAB**

page	line	correction
56	b7	equation reference should be (2.34).
75	b13	$F(x, t) = -ku_x(x, t)$.
80	t3	$\max_{\Gamma_{T,a}}[u(x, t) - \varepsilon(kt + x^2/2)]$.
83	b10	$\int S(y, t)dy = 1$.
87	t1	$S(x - y, t)$, as $y \rightarrow \pm\infty$.
120	t8	$0, 3L/4 \leq x \leq L$.
125	t15	In example (1), pay special attention to the behavior at $x = 0$ and at $x = \pi$. In example (2), at $x = \pi/4, 3\pi/4$.
131	b8	$-\int_0^L w''z dx = (-w'z + wz')\Big _0^L - \int_0^L wz' dx$
142	t5	$q(t, x)$ should be $q(x, t)$.
143	b2	dx should be ds .
144	b2	$u(0, t) = u(L, t) = 0$.
150	t2	Consider the IBVP (4.41) with $f(x) = 0$, boundary conditions
150	b9	$U(x) = Ax^3 + Bx + C$; find the coefficients A, B, C .

- 153 b11 $\varphi(x) = \sin[(x + L)\sqrt{\lambda/k_l}]$ for $x < 0$,
 $\varphi(x) = \gamma \sin[(x - L)\sqrt{\lambda/k_r}]$ for $x > 0$
- 158 b2 (In an ideal gas, $P(\rho) = A\rho^\gamma$, $\gamma > 1$. For air, $\gamma = 1.4$).
- 159 b12 $c_0^2 = A\gamma\rho_0^{\gamma-1}$.
- 164 b1 $\approx (T_0 + \varepsilon T'_0 \bar{u}_x)\mathbf{i} + \dots$
- 165 b12 $c_1 = \sqrt{T'_0/\rho_0}$.
- 176 t13 u_{xx} should be u_x .
- 184 t2 $(1/2)[f(x + ct) + f(x - ct) - f(ct - x)] = \dots$
- 484 t7 the factor $\mathbf{x}.\ast\exp(-\sin(\mathbf{x}))$.