Errata for Text

P. 23 Example 2, end of solution is

$$f''(x) = -x^2(x^2 + 1)^{-3/2} + (x^2 + 1)^{-1/2}$$

Factoring out $(x^2 + 1)^{-3/2}$, we have

$$f''(x) = -(x^2 + 1)^{-3/2}[-x^2 + (x^2 + 1)] = \frac{1}{(x^2+1)^{3/2}}.$$

P.24 Example 4, (a) $v(2) = 3(2)^2 - 60(2) + 15 = -93$ cm/sec

P.47 Exercise 19 ... 96 square inches ...

P.53 Definition 2.

$$\text{relative change} = \frac{f(q_2) - f(q_1)}{f(q_1)} \quad \textbf{(2)}$$

$$\text{percent change} = \frac{f(q_2) - f(q_1)}{f(q_1)} \times 100\% \quad \textbf{(3)}$$

Example 6, second line of solution, $x = 100 - 3p$,

P.54 Solution to Example 7

$dx/dp = -\frac{1}{\sqrt{100-2p}}\Big|_{p=18} = -1/8$, when $p = 18$, $x = \sqrt{100-2(18)} = 8.$

$$\epsilon_D = (-1/8)/(8/18) = -9/32$$

$$|\epsilon_D| = 9/32 < 1.$$

Therefore at $p = 18$ the demand is inelastic.

P.55 (1) Exercise 4 (b) the function should be $p = (50 - x^4)/(x + 2)$.
(2) Exercise 11, Delete the word *average*.

P.61 Top line 15% increase in *cost*.

P.77 **(4d)** should be $(f^{-1}(x))'(b) = \frac{1}{f'(a)}$

Exercise 11 (c) ... that is, $(f^{-1}(x))'(9)$.

P.78. End of solution, $(f^{-1}(x))'(9) = 1/9$.

P.80 Ex. 55, $g(x) = \frac{x-9}{5}$

P.86 Corrected Table 1

x	10	20	30	40	50
$f(x)$	200	460	1058	2433.4	5596.82

P87. Line 3: 460/200 = 1058/460 =2433.4/1058 = 5596.82/2433.4 = 2.3

P.92 Ex 51, delete in (third word)

P.93 Ex 67 Lin2 2, date should be dat**a**.

P.99 Ex 29 ... t given in years ...

P.105 Ex 24, replace last period with ?

P.131 Ex. 75 $y = \log_3 x^2$
Ex 76 $y = \log_7 x^5$

P.132 Ex 93, x^4 should be , x^3
second line from bottom $f''(x)$ should be $f'(x)$

P.159 Exercise 22 The marginal cost and marginal revenue for x items ...

P.132 second line from bottom $f'(x) = kf(x)$

P.140 line before Exercise 13, replace half life with decay constant

P.205 Ex. 12 Upper limit of integration should be 64.
Ex. 15. $\int_0^{\sqrt{15}} \frac{x}{(1+x^2)^{1/4}}\,dx$

P.206 Ex.28 $f(x) = \frac{4}{x^{1/2}}$
Ex 30 $f(x) = e^{-x}$

P.207 Ex. 39. $\int_{-1}^{1} e^{-x}\,dx$

P.217 Ex 14. First term in integrand should be $(3x^2 + 1)$

P.220 Top of page

$$A = \int_{-1}^{2} \left((x+4) - (x^2-3)\right) dx = \int_{-1}^{2} \left(-x^2 + x + 7\right) dx = \left(-\frac{x^3}{3} + \frac{x^2}{2} + 7x \right)\Bigg|_{-1}^{2} =$$
$$\left(-\frac{8}{3} + \frac{4}{2} + 14 \right) - \left(\frac{1}{3} + \frac{1}{2} - 7 \right) = \frac{39}{2}$$

P.227 Ex. 7, the correct answer is 32/3

P. 229 Solution to Example 9
We have, $T(t) = 10{,}000e^{0.03t}$. We substitute into (1) and we have

$$A = \int_0^5 10{,}000 e^{0.03u} e^{-0.05u}\,du = 10{,}000 \int_0^5 e^{-.0.02u}\,du = 10{,}000 \left[\frac{e^{-0.02u}}{-0.02} \right]_0^5 = \$47{,}5481.29$$

P.240 Ex 18. Function is $\frac{4e^4 x^2 e^{-2x}}{e^4 - 13}$

P.254 Example 8 corrected.
Given the surface defined by $f(x, y) = 2x^5(3x^2 + 2y^3)^{10}$, determine the slope of the tangent line to the curve at the point (1, -1, 2) formed when the surface is cut by the plane (blade) (a) $y = -1$, (b) $x = 1$.

Solution

(a)From Example 4,we have $\left.\frac{\partial f}{\partial x}\right|_{(1,-1)} = 130.$ Therefore the slope of the tangent line 130. (b) We leave it to you to show that $\left.\frac{\partial f}{\partial y}\right|_{(1,-1)} = 120,$ therefore, the slope of the tangent line is 120.

P.257 fourth line $k = e^{-2x^2-2y^2}$

P. 265 Ex. 29 and Ex. 30, Determine the slope of the tangent line to ...

P.266. Material above Ex. 67. A function is said to be homogenous of degree *n* if $f(\gamma x, \gamma y) = \gamma^n f(x,y).$ Similarly, if a function of three variables is homogenous of degree *n* if $f(\gamma x, \gamma y, \gamma z) = \gamma^n f(x,y,z).$

P. 283 Ex. 23 $f(x, y, z) = \mathbf{2}x^2 + ...$

Ex. 24 .. If the *rectangular* portion of the filed is to have maximum area.