4.63. Given page=b2p2/310

$$z = \int_0^x e^{y^2} \cos(x-y)dy$$

find $z_x.z_y$.

4.64. Same question for

$$z = \int_x^{x^2} \ln|xy|dy$$

4.65. Show that

$$y = \frac{1}{k}\int_0^x f(\alpha)\sin k(x-\alpha)d\alpha$$

satisfies the relation

$$\frac{d^2y}{dx^2} + k^2 y = f(x).$$

ANSWERS TO EVEN NUMBERED EXERCISES

4.16. $a) -2,\ \ b)0$

4.22. 0

4.24. $a)0.17,\ \ b)1.35$

4.26. $74.0m^2$

4.28. $a) - Sech\, 2t,\ \ b)(\frac{1}{t^2}\cos\frac{t-1}{t} + 2t\sin\frac{t-1}{t})e^{t^2}$

4.32. $-\frac{3y+1}{3x+1}$

4.38. $12u^2 - 24uv - 12v^2$

4.46. on $\Gamma : 4x - 2y = 3,\ \ z = x^2 - y^2$

4.48. $a)(1,2,0),\ \ b)(\alpha,\beta,\gamma)$

4.50. $a)\frac{-20}{\sqrt{17}},\ \ b)(\frac{\pi}{\sqrt{3}} - \ln 4)/\sqrt{4+\pi^2}$

4.52. $a)(-3e^2\cos 1 - e^2\sin 1 + 2e)/\sqrt{14},\ \ b)\frac{5}{26}$

4.54. $a)(-12e^2 + 5e - 5)/7,\ \ b)\frac{2}{\sqrt{6}}$