6. Nonlinear Integral Equations with Constant Limits of Integration

1. $\int_a^b g(t)y(x)y(t)\,dt = f(x).$

2. $\int_0^1 f(t)y(t)y(xt)\,dt = A.$

3. $\int_0^\infty f(t)y(t)y\left(\frac{x}{t}\right)dt = Ax^\lambda.$

4. $y(x) + \int_a^b g(t)y(x)y(t)\,dt = f(x).$

5. $y(x) + \int_a^b g(x)y(x)y(t)\,dt = f(x).$

6. $y(x) + \int_0^\infty f(t)y(t)y\left(\frac{x}{t}\right)dt = 0.$

7. $y(x) + \int_0^\infty f(t)y\left(\frac{x}{t}\right)y(t)\,dt = Ax^b.$

8. $y(x) + \int_a^b f\big(t, y(t)\big)\,dt = g(x).$

9. $y(x) + \int_a^b e^{\lambda(x-t)} f\big(t, y(t)\big)\,dt = g(x).$

10. $y(x) + \int_a^b g(x) f\big(t, y(t)\big)\,dt = h(x).$

11. $y(x) + \int_a^b |x-t| f\big(t, y(t)\big)\,dt = g(x).$

12. $y(x) + \int_a^b e^{\lambda|x-t|} f\big(t, y(t)\big)\,dt = g(x).$

