

56. Work on all problems of Sections 4.3 and 4.4.
57. Find a series solution of $y' = y$ at $x = 0$ and $x = 3$.
58. Find a series solution of $y'' = y$ at $x = 0$ and $x = 3$.
59. Find a series solution of $y'' = -y$ at $x = 0$ and $x = 3$.
60. Find a solution of Airy's equation in powers of $x - 2$.
61. Find a series solution of the following equations in powers of $x - x_0$:
- (a) $y'' - xy' - y = 0$, $x_0 = 0$;
 - (b) $y'' + xy' + 2y = 0$, $x_0 = 0$;
 - (c) $xy'' + y' + xy = 0$, $x_0 = 1$
62. Work on problem 21 of Section 5.2.