

Problem 14

Verify that $y_1(t) = 1$ and $y_2(t) = t^{1/2}$ are two solutions of the differential equation $yy'' + (y')^2 = 0$ for $t > 0$. Then show that $y = c_1 + c_2t^{1/2}$ is not, in general, a solution of this equation. Explain why this result does not contradict Theorem 3.2.2.