Name___

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Section_

Q1. Show that 2D-1 annihilates $y=4e^{\frac{x}{2}}$

Q2. Find function that is annihilated by

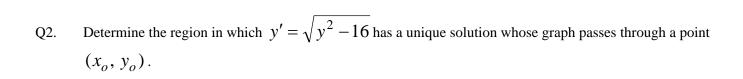
$$D^3 - 10D^2 + 25D$$

Q3. Write annihilator of

$$y = x + x^2 + \frac{2}{3}\cos x + \sin x + e^{2x}$$

. Write annihilator of

$$e^x x^3 \sin 2x$$



Q3. Use separation of variables method to find an **explicit** solution of the initial value problem

$$\frac{dy}{dx} = \frac{y^2 - 1}{x^2 - 1}, \quad x(2) = 2$$