NAME:

Home Work 5

MAP 2302 - Differential Equations

Solve the following ODE using the Substitution Method ($y = v \cdot x$ or $v = \frac{y}{x}$):

1. $y' = \dfrac{3y^2 - x2}{2xy}$
2. $y + \sqrt{x^2 + y^2} - xy' = 0; y(1) = 0$
3. $x \tan \dfrac{y}{x} + y - xy' = 0$
4. $(\sqrt{x+y} + \sqrt{x-y}) + (\sqrt{x-y} - \sqrt{x+y})y' = 0$
5. $x^3 + y^2\sqrt{x^2+y^2} - xy(\sqrt{x^2+y^2})y' = 0$
6. $(3x^2 + 9xy + 5y^2) - (6x^2 + 4xy)y' = 0; y(2) = -6$