

NAME:

Home Work 1.
MAP 2302 - Differential Equations

Solve the following VARIABLE SEPARABLE Ordinary Differential Equations:

1. $y'(x) = e^{-y}(x + x^3)$

2. $yy' + (1 + y^2) \sin x = 0; y(0) = 1$

3. $(1 + y^2) + (1 + x^2)y' = 0; y(0) = -1$

4. $2x(y + 1) - y \frac{dy}{dx} = 0; y(0) = -2$

5. $\frac{dy}{dx} = e^{(y+x+3)}$

6. $x \sin y + (x^2 + 1) \cos y \cdot y' = 0; y(1) = \frac{\pi}{2}$

7. $xy + 2x + y + 2 + (x^2 + 2x)y' = 0$

8. $\operatorname{cosec} y + \sec x \cdot y' = 0$

9. $2r(s^2 + 1) + (r^4 + 1) \frac{ds}{dr} = 0$

10. $(x - 4)y^4 - x^3(y^2 - 3)y' = 0$