MTH 3311 - Practice Test #1 - Answers

Spring 2017

Pat Rossi Name _____

1. $3x^4 + 4xy^3 + 6\sin(y) = C$
2. $y - \ln(y+1) - \frac{1}{3}x^3 = -9$
3. $y = e^x\left(\frac{1}{2}x^{-2} + C\right)$
4. $\arctan\left(\frac{2y}{3x}\right) = \ln\left(x^6\right) + C$
5. $4x^4y^2 + 6x^2y^2 + 3e^{-y} = C$
6. $y = \left(\frac{3}{2}x^2 + 6x + 9\right)^{\frac{1}{3}}$
7. $y = -x\cot(x) + 1 + C\csc(x)$
8. $e^{-\frac{y}{x}} = \ln|x| + C$
9. The equation is NOT Exact $\frac{\partial M}{\partial y} = 8yx^3 + 4yx \neq 32x^3 + 24x = \frac{\partial N}{\partial x}$
10. $y = \frac{3}{2}(x-3)^2 - \frac{1}{2}$
11. $y = \frac{1}{5}x^4 + \frac{1}{3}x^2 + Cx^{-1}$
12. $\frac{x^2}{2y^2} + \ln(y) = C$
13. $\sin(x) + 3e^{xy} + \tan(y) = C$
14. $y = C_2e^{-\frac{1}{2}x^2 - x} + 1$
15. $y = 10 + C(\sec(x) - \tan(x))$
16. $y = \left(3x^3\ln(x) + C\right)^{\frac{1}{3}}$