ASSIGNMENT 3

Dawson College

Course Code: 201-NYA-05 S07

DUE DATE: March 11th 2010

Instructor: E. Richer

Section 23.8

Find y' by differentiating implicitely. When applicable express the result in terms of x and y.

6. $x^5 - 5y = 6 - x$

14. $8y - xy - 7 = 0$

16. $y^2x - \frac{5y}{x+1} + 3x = 4$

29. At what point(s) does the graph of $x^2 + y^2 = 4x$ have a horizontal tangent line?

31. Find the slope of a tangent line to the curve of the implicit function $xy + y^2 + 2 = 0$ at the point $(-3, 1)$.

32. Show that the graphs of $2x^2 + y^2 = 24$ and $y^2 = 8x$ are perpendicular at the point $(2, 4)$.

Section 27.1

41. Find the derivative of hte implicit function $\sin(xy) + \cos(2y) = x^2$

42. Find the derivative of the implicit function $x\cos(2y) + \sin x \cos y = 1$

Section 27.2

Find the derivatives of the given functions:

33. $x\sec y - 2y = \sin(2x)$

34. $3\cot(x+y) = \cos y^2$

Section 27.3

Find the derivatives of the given functions:

32. $\sin^{-1}(x+y) + y = x^2$

33. $2\tan^{-1}(xy) + x = 3$

Section 27.5

Find the derivatives of the given functions:

32. $3\ln(xy) + \sin y = x^2$

33. $y = x - \ln^2(x+y)$

Section 27.6

Find the derivatives of the given functions:

25. $y = xe^{xy} + \sin y$

26. $y = 4e^{\frac{-2}{x}} \ln y + 1$