Implicit Differentiation

1. Find dy/dx by implicit differentiation
(similar to p.171 #1-22)

$$3x^2 + 4y^2 = 9$$

2. Find dy/dx by implicit differentiation
(similar to p.171 #1-22)

$$x^3 y + y^4 x^2 = 5$$

3. Find dy/dx by implicit differentiation
(similar to p.171 #1-22)

$$e^{7x-y} + y^2 = 2x$$

4. Find dy/dx by implicit differentiation
(similar to p.171 #1-22)

$$\sqrt[3]{xy} = y^4 - 7xy$$

5. Find dy/dx by implicit differentiation
(similar to p.171 #1-22)

$$2\tan(x)\cos(y) = 3$$

6. Find dy/dx by implicit differentiation (similar to p.171 #1-22) NEXT TIME SPRING 2013

$$\ln(x^2 y^3) + 2x = 5$$

7. Find dy/dx by implicit differentiation and evaluate the derivative at the given point (similar to p.172 #27-36)

$$(2x - y)^3 = x^2 + y - 13, \quad (1,4)$$

8. Use implicit differentiation to find an equation of the tangent line to the graph at the given point (similar to p.172 #41-44)

$$3x^2 - y = -7 + y^3, \quad (1,2)$$

9. Find dy/dx using logarithmic differentiation (similar to p.173 #71-82)

$$y = \sqrt{x^3(x+5)(x+7)}, x > 0$$

10. Find dy/dx using logarithmic differentiation (similar to p.173 #71-82)

$$y = x^{x+2}, x > 0$$

11. Find dy/dx using logarithmic differentiation (similar to p.173 #71-82)

$$y = (x-3)^{\ln x}, x > 1$$