

MAPLE PROJECT 3
Implicit differentiation and Limits
Due April 6, 2007

1. Find the equation of the tangent line (in slope intercept form) to the graph of

$$xy^4 + 2y^3 = 14x + 18 \quad \text{at} \quad x = 1, y = 2$$

- (a) find $\frac{dy}{dx}$ using implicit differentiation
(b) find slope of the tangent line at $x = 1$
(c) find the equation of the tangent line.

2. Find the values of a and b such that the following statement is true.

$$\lim_{x \rightarrow -\infty} (\sqrt{ax^2 + bx + 2x}) = -\frac{3}{4}$$