Differentiation Exam Practice

1. (a) Given , obtain and simplfy your answer. (3)

(b) Given that , use logarithmic differentiation to obtain in terms of x. (3)

1. Differentiate, simplifying your answers:
2. , where x > -1 ; (3)
3. , where x > 0. (3)
4. A curve is defined by the parametric equations

for all t. Show that the point A(-1, 5) lies on the curve and obtain an equation

of the tangent to the curve at the point A. (6)

1. (a) Given that , , obtain and simplify *f’(x).*  (4)
2. Given that and x > 0, use logarithmic

Differentiation to show that can be expressed in the form ,

Stating the values of the constants and b. (3)

1. The equation defines a curve passing through the point

A (2,1). Obtain an equation for the tangent to the curve at A. (4)

1. Given , use implicit differentiation to obtain in terms of x and y. (2)

Hence obtain in terms of x and y. (3)