**IB Math HL1: Curve Analysis Practice: Work with your group members**

*Use of Calculator is okay when appropriate. However, must show your work*.

Names: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Given:  .

(Identities: , )

1. Find the stationary points expressed in ordered pair (x, y). \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Work:

1. Find the intervals where f(x) is increasing and decreasing.

Increasing: \_\_\_\_\_\_\_\_\_\_\_\_\_ Decreasing: \_\_\_\_\_\_\_\_\_\_\_

Justify by sign diagram:

1. Find the inflection point(s) just for x values. \_\_\_\_\_\_\_\_\_\_

Work:

1. Find the intervals where f(x) is concave up and concave down.

Concave up: \_\_\_\_\_\_\_\_\_\_\_\_\_ Concave down: \_\_\_\_\_\_\_\_\_\_\_

Justify by sign diagram:

e) State the local max or min and justify. . Max:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Min: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. For the given  on 
2. Find the y-intercept and the x-intercepts.

y-int: \_\_\_\_\_\_\_\_\_\_ x-int: \_\_\_\_\_\_\_\_\_\_\_\_

1. Find the stationary points expressed in ordered pair (x, y). \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Work:

1. Find the intervals where f(x) is increasing and decreasing. [2 pts]

Increasing: \_\_\_\_\_\_\_\_\_\_\_\_\_ Decreasing: \_\_\_\_\_\_\_\_\_\_\_

Justify by sign diagram:

1. Find the inflection point(s) just for x values. \_\_\_\_\_\_\_\_\_\_[4 pts]

Work:

1. Find the intervals where f(x) is concave up and concave down. [3 pts]

Concave up: \_\_\_\_\_\_\_\_\_\_\_\_\_ Concave down: \_\_\_\_\_\_\_\_\_\_\_

Justify by sign diagram:

j) State the local max or min and justify. . Max:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Min: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Given 
2. Find the stationary points expressed in ordered pair (x, y). \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Work:

1. Find the intervals where f(x) is increasing and decreasing.

Increasing: \_\_\_\_\_\_\_\_\_\_\_\_\_ Decreasing: \_\_\_\_\_\_\_\_\_\_\_

Justify by sign diagram:

1. Find the inflection point(s) just for x values. \_\_\_\_\_\_\_\_\_\_

Work:

1. Find the intervals where f(x) is concave up and concave down.

Concave up: \_\_\_\_\_\_\_\_\_\_\_\_\_ Concave down: \_\_\_\_\_\_\_\_\_\_\_

Justify by sign diagram:

e) State the local max or min and justify. Max:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Min: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_