**Calculus & Parametrics Overview**

A two-dimensional parametric curve is defined by

The **slope**  of a parametric curve is given by .

Points of **horizontal tangency** occur where and .

Points of **vertical tangency** occur where and .

The second derivative of a parametric curve is found by .

If at a point, then the curve is concave up at that point.

If at a point, then the curve is concave down at that point.

The **speed** of a particle moving along a parametric curve is found by

The **ark length** or **distance travelled** of a particle moving along a parametric curve from to is

The **area ‘under’ a parametric curve** is found by

(Moo!)

Motion along a parametric curve and **finding displacement or position** at time