Homework for Chapter 10 Sections 10.1, 10.2: Parametric Equations Stewart & Larson, Calculus Early Transcendentals, 8th edition

Section 10.1:

Study and finish Section 10.1 Review Packet Skills Practice Problems Section 10.1: 1,3,4,5,7-13,15,19,21,25,27,33,37

Section 10.2:

Problems listed by topic Tangent Lines: 3, 5, 7 Concavity: 11, 13, 15 Horizontal & Vertical Tangent Lines: 17, 18 Horizontal & Vertical Tangent Lines involving taking limits: 19, A1, A2 (see below) Area curve, above x axis: 31, 33, A3, A4, A5 (see below) Arclength: 37, 39, 41, 45

A1 and A2:

a. Find the points at which the graph has horizontal tangent lines b. Find the points at which the graph has vertical tangent lines **A1.** $x = 1 + \cos t$, $y = t + \sin t$, $0 \le t \le 2\pi$ **A2.** $x = t^3$, $y = 4t^2-t^4$

A3, A4, and A5: Find the area enclosed by the x axis, y axis, and the curve **A3.** x = 6t-1, $y = 1-t^3$ **A4.** $X = 4 - t^2$, $y = e^{t}-1$ **A5:** x = 9-2t, $y = 6t-t^2$

Additional practice problems for area, if you need them: Find the area under the curve and above the x-axis: **A6:** $x = t^3$, $y = 4t^2-t^4$ **A7:** $x = \cos t$, $y = \sin^2 t$