

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. $x = 1 + \cos t$, $y = t + \sin t$, $0 \leq t \leq 2\pi$ **A2.** $x = t^3$, $y = 4t^2 - t^4$

A3, A4: Find the area in the first quadrant 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: Find the area above the x axis and under the curve: $x = 9 - 2t$, $y = 6t - t^2$

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:** $x = \cos t$, $y = \sin^2 t$