BC CalcLog 3.3

An oil tanker spills 100,000 cubic meters of oil, which forms a slick that spreads on the water surface in a shape best modeled by a circular disc is increasing at a rate of 3 m/min. At $t = T$, the area of the "circular" slick reaches 100π square meters.

(a) How fast is the area of the slick increasing at $t = T$?

(b) How fast is the thickness of the slick decreasing at $t = T$?

(c) Find the rate of change of the area of the slick with respect to the thickness at $t = T$?