

Mathematics A1a homework
Academic year 2016 autumn

Due to December 8

You have to do 3 out of 6!

Example 1. Find the curvature of the graph $f(x) = \sin(x)$.

Example 2. Find the center of the osculating circle of the graph $f(x) = x^2$.

Example 3. Find the center of the osculating circle of the graph $f(x) = e^x$.

Example 4. Find the curvature of the graph $f(x) = \sqrt{1 - x^2}$.

Example 5. Find the length of the graph $f(x) = \sqrt{1 - x^2}$ from 0 to 1.

Example 6. Find the length of the graph $f(x) = \cosh x$ from 0 to 1.