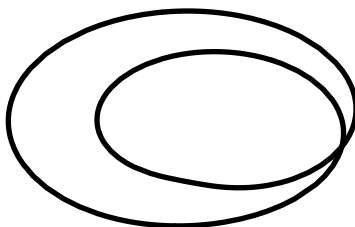


MS Entrance Exam - Geometry

2006. 10

1. Find the total curvature of the following plane curve.



2. True or false ?
 - (a) Two regular C^2 plane curves are congruent iff they have the same curvature.
 - (b) Two regular C^2 space curves are congruent iff they have the same curvature.
3. What are the Gaussian curvatures of the following surfaces?
 - (a) cylinder
 - (b) cone
 - (c) sphere of radius 5 meter
 - (d) torus
4. What is the total Gaussian curvature of a compact connected oriented surface of genus 2 ?