

Math 3A Lab Worksheet

1. A specialized air intake manifold that accelerates air flow, receives air through a circular inlet. The air flow is divided evenly and is exhausted through two semi-circular outlets. A three dimensional model and different views of the individual pieces are shown below. Note: It takes two pieces to construct the vent.

- a) Find the area of the inlet and the area of a single outlet.
- b) Set up the integral that finds the volume of the assembled vent.
- c) Set up the sum of integrals needed to find the entire surface area of the vent.

