Section 7.5. The Pappus-Guldinus Theorems

Note. In this section we state two classical results from geometry which streamline the computation of surface areas and volumes of rotation.

First Theorem. If a path of length L in the xy-plane that does not intersect the x-axis has centroid $(\overline{x}, \overline{y})$ and is revolved about the x-axis, then the resulting surface area is $A = 2\pi\overline{y}L$.

Second Theorem. If an area A is the xy-plane that does not intersect the x-axis has centroid $(\overline{x}, \overline{y})$ and is revolved about the x-axis, then the resulting volume is $V = 2\pi\overline{y}A$.

Example. Page 365 Number 7.93.

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