

Tangent Planes and Linear Approximation



Question

A cylinder of height h cm and radius r cm is heated and expands by 0.1 cm in height and 0.3 cm in radius. Which formula estimates the expansion in volume in cubic cm?

- A. $dV = 0.6\pi r h + 0.1\pi r^2$
- B. $dV = \pi r^2(h + 0.1)$
- C. $dV = \pi(r + 0.3)^2 h$
- D. $dV = \pi(r + 0.3)^2(h + 0.1)$