Lecture Slides: Related Rates

Ben Logsdon
Math 3, Fall 2024

October 16, 2024

An airplane flies horizontally, maintaining an altitude of 4,000 ft and a speed of 1,000 ft/sec. A person stands on the ground watching as the plane passes directly over the person. When the plane has flown 3,000 ft past the person horizontally, how quickly is the distance between the person and the plane changing?

A spherical balloon is being blown up at a rate of $10\,\mathrm{cm}^3/\mathrm{sec}$. When the radius is $20\,\mathrm{cm}$, how quickly is the radius of the balloon increasing?