Related Rates:

Ex:
Air is being pumped into a spherical balloon so that its volume increases at rate of 50 cm^3/s. how fast is the radius of the balloon increasing when the diameter is 30 cm?

EX: A ladder 5 ft long rests against vertical wall. If the top of the ladder moves down at rate 8/3 ft/s. how fast will the bottom of the ladder be moving away from the wall when the bottom is 4 ft from the wall?

EX: suppose a liquid is to be cleared of sediment by pouring it through a cone-shaped filter. Assume the height of the cone is 16 in and the radius at the base of the cone is 4 in. If the liquid is flowing out of the cone at a constant rate of 2 in^3/min. how fast is the depth of the liquid decreasing when the level is 8 in deep?