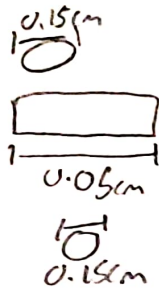
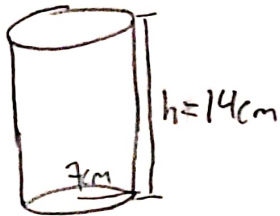


Samuel Andres Munoz Soler Zuno

HT # 6

M. Intermedia 2

1



$$V = \pi r^2 h$$

$$\text{Altura} = 14 \text{ cm}$$

$$\text{radio} = 7 \text{ cm} \rightarrow$$

$$\text{fondo} = 0.15 \text{ cm} \rightarrow$$

$$\text{gruesor} = 0.05 \text{ cm}$$

Superficie

$$dV = \pi (7)^2 (0.05) + 2\pi (7)(14)(0.05)$$

$$dV = 76.969$$

$$dV = 76.97 \text{ cm}^3$$

$$\frac{\partial V}{\partial h} = \pi r^2$$

$$\frac{\partial V}{\partial r} = 2\pi r h$$

$$dV = \pi r^2 dh + 2\pi r h dr$$

$$dh = 0.05 \text{ cm} \rightarrow$$

$$dr = 0.05 \text{ cm}$$

$$h = 14 \text{ cm}$$

$$r = 7 \text{ cm}$$

2

$$z = f(x, y) ; x = g(s, t) ; y = h(s, t)$$

$$x(1, 2) = 5, y(1, 2) = 2$$

$$z_x(s, 2) = 14, z_y(s, 2) = 63$$

$$x_s(1, 2) = 2, x_t(1, 2) = 4$$

$$x_t(1, 2) = 4, y_t(1, 2) = -4$$

$$\rightarrow \frac{dz}{ds} = \frac{dz}{dx} \frac{dx}{ds} + \frac{dz}{dy} \frac{dy}{ds}$$

$$= (4)(2) + (63)(2)$$

$$118$$

$$\frac{dz}{dt} = \frac{dz}{dx} \frac{dx}{dt} + \frac{dz}{dy} \frac{dy}{dt}$$

$$(4)(4) + (63)(-4)$$

$$-236$$