

4. A can is going to be modified in such a way that its height will change from 14cm to 14.8 cm but the diameter of the base will remain as 9cm. $r = 4.5$

a) Find the change in the volume of the can (20 pts)

$$dh = 0.8 \quad V = \pi r^2 h$$

$$V_1 = \pi (4.5)^2 (14) = 890.64.$$

$$V_2 = \pi (4.5)^2 (14.8) = 941.53.$$

$$\Delta V = 50.895 \text{ cm}^3$$

b) Find the approximate change in the volume of the can (20 pts)

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

$$V' = \pi (2r) dh \quad \pi r^2 dh$$

$$V' = \pi (2)(4.5)(0.8)$$

$$dV = 22.619 \text{ cm}^3$$

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BONUS

1. -
2. Minnesota
3. -

$$V' = \pi r dh$$

$$V' = \pi (4.5)(0.8)$$

$$V' = 3.6\pi$$