1. The radius of a sphere was measured to be 5 cm with a possible error of 0.1 cm.

   (a) (4 point) Use differentials to estimate the maximum error in the calculated volume of the sphere.

   (b) (1 point) What is the relative error? What is the percentage error?
2. (5 points) The altitude of a triangle is increasing at a rate of 1 \( cm/min \) while the area of the triangle is increasing at a rate of 2 \( cm^2/min \). At what rate is the base of the triangle changing when the altitude is 10 \( cm \) and the area is 100 \( cm^2 \)?