Question 13 (5 marks)
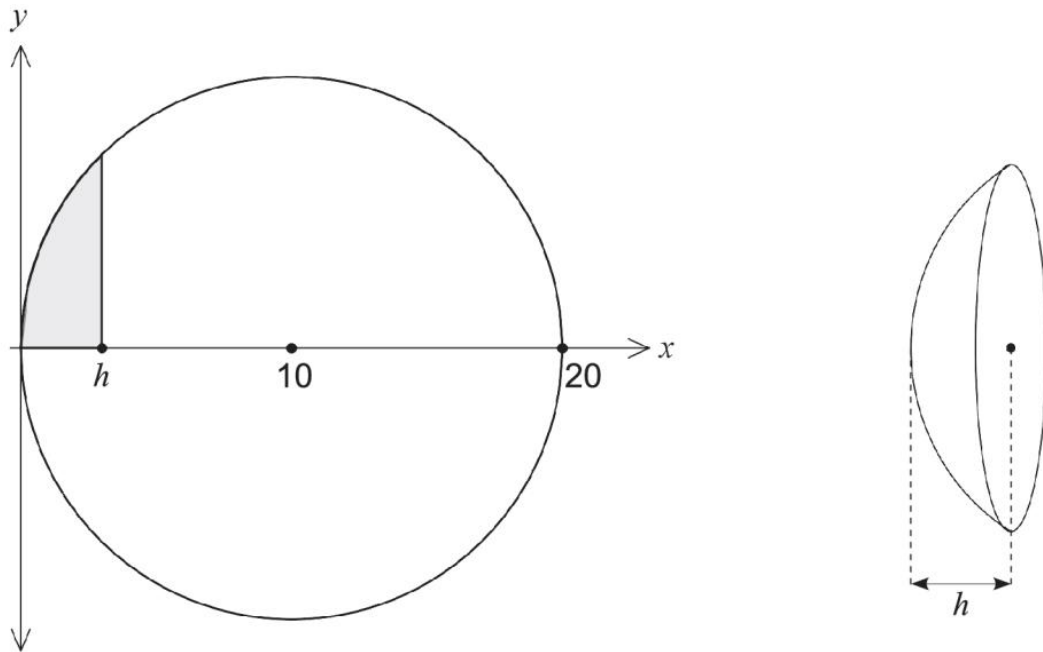
A solid spherical cap with depth h is part of a solid sphere with radius 10 cm. This cap can be generated by revolving the shaded region about the x axis.

(a) Show that the equation for the circle shown above is $x^2 + y^2 = 20x$. (1 mark)

(b) Develop an expression for the volume of the spherical cap in terms of h. (4 marks)