

4.

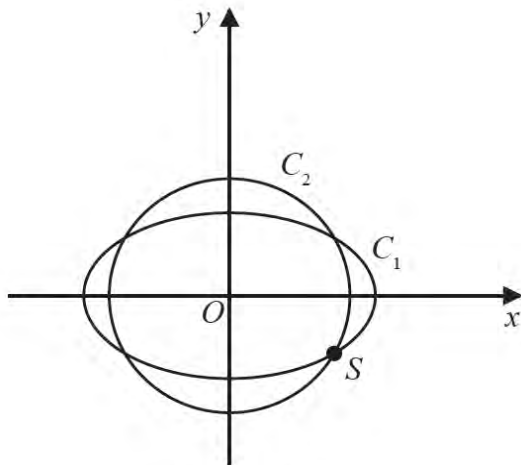


Figure 2

The curve C_1 with parametric equations

$$x = 22 \cos t, \quad y = 2\sqrt{5} \sin t, \quad 0 \leq t < 2\pi,$$

meets the circle C_2 with equation

$$x^2 + y^2 = 130$$

at four distinct points as shown in Figure 2.

Given that one of these points, S , lies in the 4th quadrant, find the Cartesian coordinates of S to 3 significant figures.

(Total for Question 4 is 6 marks)