



The diagram shows part of the curve $y = \frac{9}{2x+3}$, crossing the y -axis at the point $B(0, 3)$. The point A on the curve has coordinates $(3, 1)$ and the tangent to the curve at A crosses the y -axis at C .

- (i) Find the equation of the tangent to the curve at A . [4]
- (ii) Determine, showing all necessary working, whether C is nearer to B or to O . [1]
- (iii) Find, showing all necessary working, the exact volume obtained when the shaded region is rotated through 360° about the x -axis. [4]