

**10** The equation of a curve is  $y = \frac{4}{2x-1}$ .

- (i) Find, showing all necessary working, the volume obtained when the region bounded by the curve, the  $x$ -axis and the lines  $x = 1$  and  $x = 2$  is rotated through  $360^\circ$  about the  $x$ -axis. [4]
- (ii) Given that the line  $2y = x + c$  is a normal to the curve, find the possible values of the constant  $c$ .