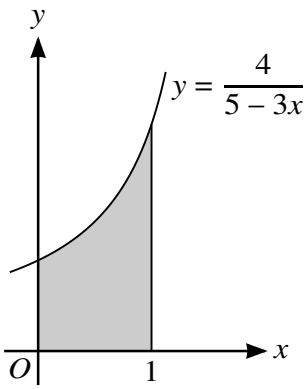
**10**




The diagram shows part of the curve $y = \frac{4}{5 - 3x}$.

**(i)** Find the equation of the normal to the curve at the point where $x = 1$ in the form $y = mx + c$, where $m$ and $c$ are constants. [5]

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The shaded region is bounded by the curve, the coordinate axes and the line $x = 1$.

**(ii)** Find, showing all necessary working, the volume obtained when this shaded region is rotated through 360° about the $x$-axis. [5]