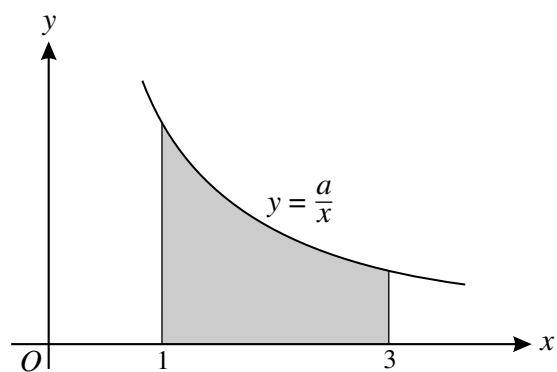**2**

The diagram shows part of the curve $y = \dfrac{a}{x}$, where a is a positive constant. Given that the volume obtained when the shaded region is rotated through $360°$ about the x-axis is 24π, find the value of a.

[4]