

Advanced Higher Maths
SQA 2024 Paper 2
Question 8



A solid is formed by rotating part of the curve with equation $y = \frac{1}{\sqrt{1+x^2}}$ about the x -axis through 2π radians, from $x = 0$ to $x = a$.

The value of the volume of the solid is $\frac{\pi^2}{3}$.

Determine the value of a .

5

Answer:

$$\sqrt{3}$$