

5

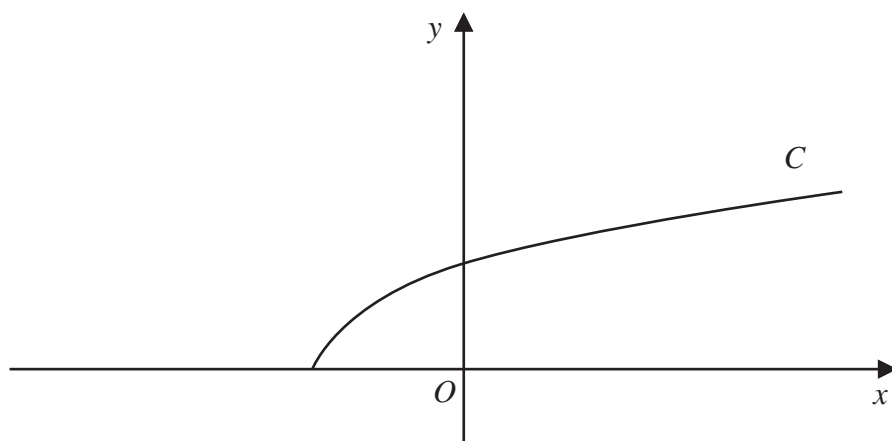
**Figure 2**

Figure 2 shows the graph of part of the curve  $C$  with equation  $y = \sqrt{2x+6}$ .  
The finite region enclosed by the curve  $C$  and the straight line with equation  $3y - x = 3$  is rotated through  $360^\circ$  about the  $x$ -axis.

Use algebraic integration to find the exact volume of the solid generated.  
Give your answer in terms of  $\pi$

(8)

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**Question 5 continued**

Handwriting practice area with horizontal dotted lines.

**(Total for Question 5 is 8 marks)**



P 7 3 5 8 4 A 0 1 5 3 6