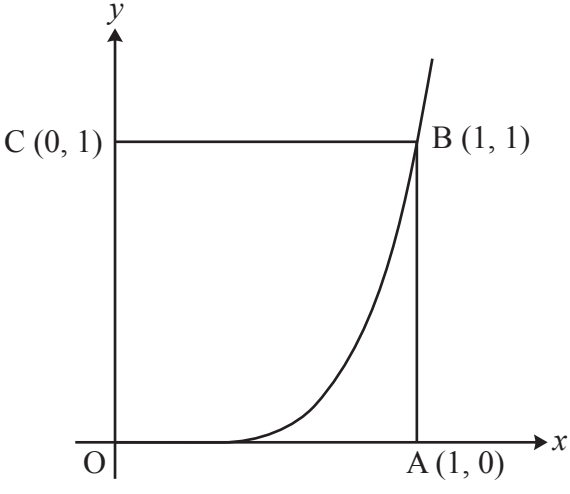
3 In this question you must show detailed reasoning.

The diagram shows the curve with equation $y = x^5$ and the square OABC where the points A, B and C have coordinates (1, 0), (1, 1) and (0, 1) respectively.

The curve cuts the square into two parts.



Show that the relationship between the areas of the two parts of the square is

$$\frac{\text{Area to left of curve}}{\text{Area below curve}} = 5.$$

[4]