











5. (a) In the space provided, sketch the graph of  $y = 3^x$ ,  $x \in \mathbb{R}$ , showing the coordinates of the point at which the graph meets the y-axis.

(2)

(b) Complete the table, giving the values of  $3^x$  to 3 decimal places.

$x$	0	0.2	0.4	0.6	0.8	1
$3^x$		1.246	1.552			3

(2)

(c) Use the trapezium rule, with all the values from your table, to find an approximation

for the value of  $\int_0^1 3^x dx$ .

(4)

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