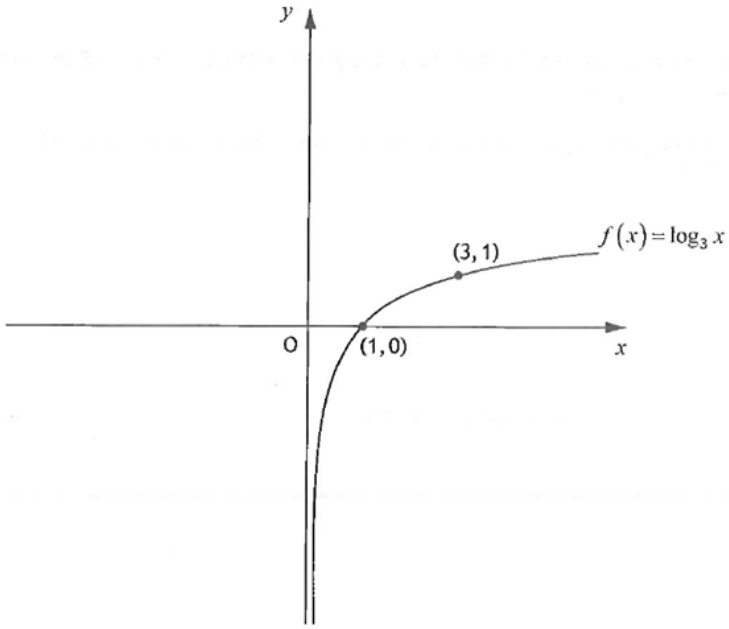
SQA Past paper questions

2023 – Paper 1 – Question 9

The diagram shows the graph of the function $f(x) = \log_3 x$, where $x > 0$.



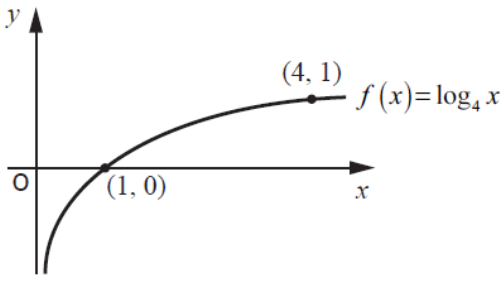
The inverse function, f^{-1}, exists.

On the diagram in your answer booklet, sketch the graph of $y = f^{-1}(x) - 1$. 3

Click here for video solution.

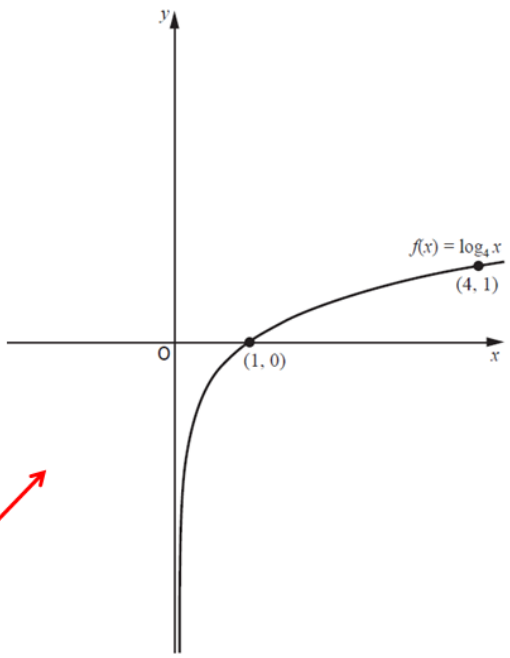
2016 – Paper 1 – Question 10

The diagram below shows the graph of the function $f(x) = \log_4 x$, where $x > 0$.



The inverse function, f^{-1}, exists.

On the diagram in your answer booklet, sketch the graph of the inverse function.

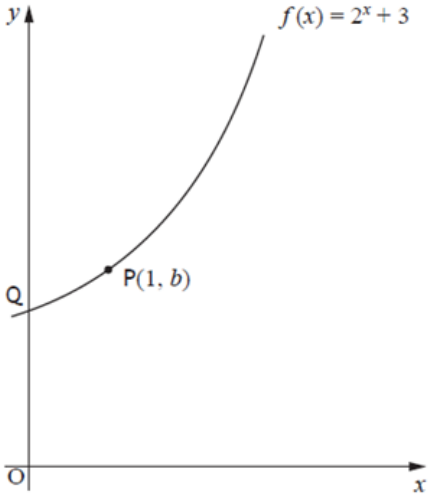


Click here for video solution.

2015 – Paper 1 – Question 13

The function $f(x) = 2^x + 3$ is defined on $\mathbb{R}$, the set of real numbers.

The graph with equation $y = f(x)$ passes through the point P$(1, b)$ and cuts the y-axis at Q as shown in the diagram.



(a) What is the value of b? 1

(b) (i) Copy the above diagram.

On the same diagram, sketch the graph with equation $y = f^{-1}(x)$. 1

(ii) Write down the coordinates of the images of P and Q. 3

(c) R $(3,11)$ also lies on the graph with equation $y = f(x)$.

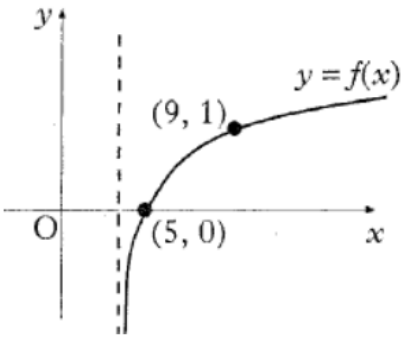
Find the coordinates of the image of R on the graph with equation $y = 4 - f(x + 1)$. 2

Click here for video solution.

2005 – Paper 1 – Question 7

The function f is of the form $f(x) = \log_b (x - a)$.

The graph of $y = f(x)$ is shown in the diagram.



(a) Write down the values of a and b. **2**

(b) State the domain of f. **1**

Click here for video solution.