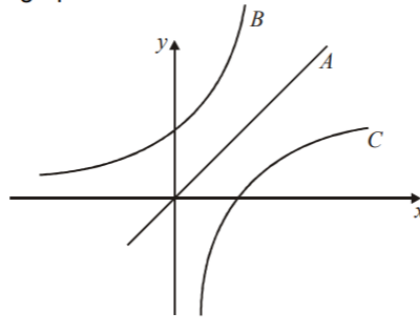


7. [Maximum mark: 4] **[without GDC]**

The diagram shows three graphs.



A is part of the graph of $y = x$, B of the graph of $y = 2^x$,

C is the reflection of graph B in line A . Write down:

(a) the equation of C in the form $y = f(x)$. [2]

(b) the coordinates of the point where C cuts the x -axis. [2]

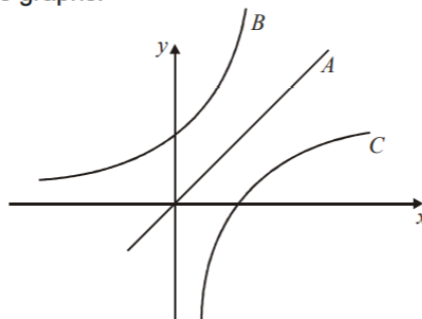
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8. [Maximum mark: 4] **[without GDC]**

The diagram shows three graphs.



A is part of the graph of $y = x$, B of the graph of $y = e^x$,

C is the reflection of graph B in line A . Write down:

(a) the equation of C in the form $y = f(x)$. [2]

(b) the coordinates of the point where C cuts the x -axis. [2]

.....

.....

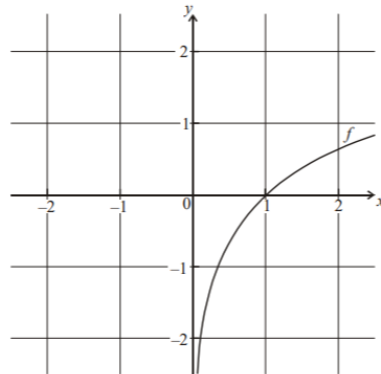
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53. [Maximum mark: 6] [without GDC]

Let $f(x) = \log_a x$, $x > 0$.

- (a) Write down the value of (i) $f(a)$ (ii) $f(1)$ (iii) $f(a^4)$ [3]
(b) The diagram below shows part of the graph of f .

On the same diagram, sketch the graph of f^{-1} .



[3]

.....
.....

Answers

7. (a) C has equation $y = \log_2 x$
(b) Cuts x -axis $\Rightarrow \log_2 x = 0 \Rightarrow x = 2^0 \Rightarrow x = 1$
Point is (1, 0)
8. (a) C has equation $y = \ln x$
(b) Cuts x -axis $\Rightarrow \ln x = 0 \Rightarrow x = e^0 \Rightarrow x = 1$
Point is (1, 0)

53. (a) (i) $f(a) = 1$ (ii) $f(1) = 0$ (iii) $f(a^4) = 4$
(b)

