Marked example 2

Paper 1 style · No calculator

2 6 marks SL 2.9 ●●○ Typical

Let $f(x) = \log_2(x+4)$, for $x > -4$.

(a) Write down the equation of the vertical asymptote of the graph of f. **[1]**

(b) Find $f(4)$. **[1]**

(c) Find the x-intercept of the graph of f. **[2]**

(d) Find $f^{-1}(x)$. **[2]**

MARKSCHEME (a)

$x = -4$ **A1**

Total 1 mark

MARKSCHEME (b)

$\log_2 8 = 3$ **A1**

Total 1 mark

MARKSCHEME (c)

$x + 4 = 1$ **(M1)**

$x = -3$ **A1**

Total 2 marks

MARKSCHEME (d)

$x = \log_2(y+4) \Rightarrow 2^x = y + 4$ **(M1)**

$f^{-1}(x) = 2^x - 4$ **A1**

Total 2 marks

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