Exercise 1

Paper 1 style · No calculator

1 6 marks SL 2.8 ●○○ Routine

Let $f(x) = \dfrac{4x+2}{2x-1}$, for $x \neq \dfrac{1}{2}$.

(a) Write down the equations of the asymptotes of the graph of f. **[2]**

(b) Find the coordinates of the points where the graph of f meets the axes. **[2]**

(c) Write down the domain and the range of f. **[2]**

The markscheme is on the next page: try the question first. Written and verified by a practising IB mathematics teacher, produced with AI assistance; solved twice and recomputed by software. Not affiliated with or endorsed by the International Baccalaureate Organization.
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MARKSCHEME (a)

$x = \dfrac{1}{2}$ **A1**

$y = 2$ **A1**

Total 2 marks

MARKSCHEME (b)

$\left(-\dfrac{1}{2}, 0\right)$ **A1**

$(0, -2)$ **A1**

Total 2 marks

MARKSCHEME (c)

domain $x \neq \dfrac{1}{2}$ **A1**

range $f(x) \neq 2$ **A1**

Total 2 marks