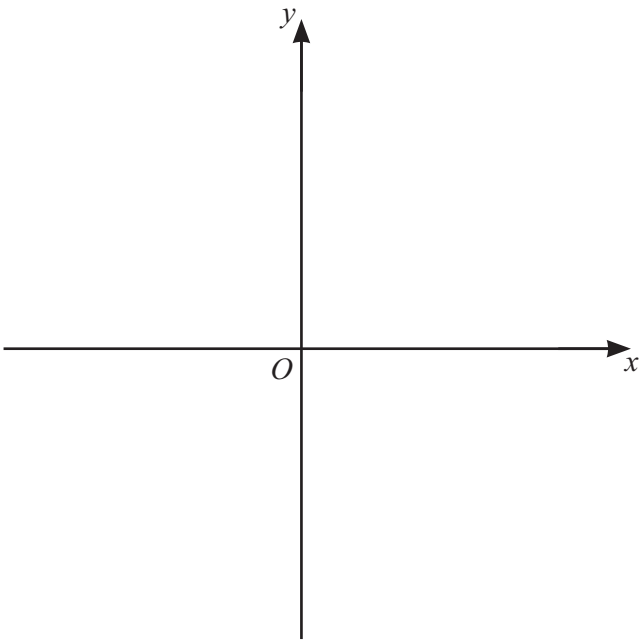
4 The function f is defined by $\mathrm{f}(x) = 2x - 1$ for $x \in \mathbb{R}$.

(a) Explain why the function f^2 can be formed. [1]

(b) On the axes, sketch the graph of $y = \left|\mathrm{f}^2(x)\right|$.
State any intercepts with the coordinate axes. [4]



(c) It is given that $\left|\mathrm{f}^2(x)\right| \leqslant ax + b$ for $-1 \leqslant x \leqslant 3$ and for **no other** values of x.

Find the values of a and b. [3]

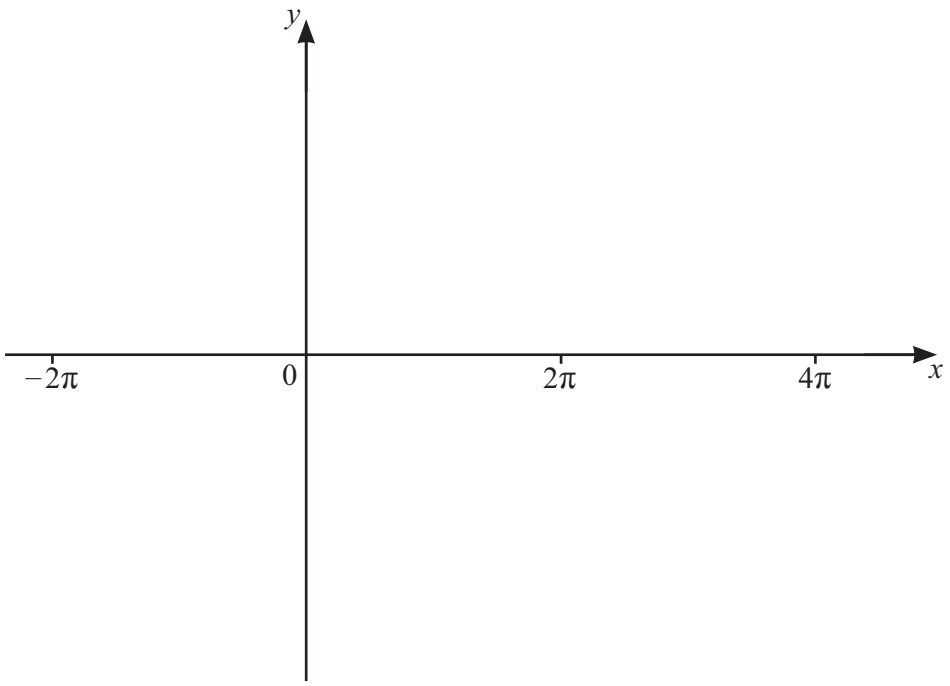
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5 In this question, all angles are in radians.

(a) Write down the period of $5\tan\left(\frac{x}{4}\right)+1$. [1]

(b) On the axes, sketch the graph of $y = 5\tan\left(\frac{x}{4}\right)+1$ for $-2\pi \leqslant x \leqslant 4\pi$.

State the intercept with the y-axis.
Show clearly the positions of any asymptotes. [3]



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