

10 The function f is defined by $f(x) = 3 \tan\left(\frac{1}{2}x\right) - 2$, for $-\frac{1}{2}\pi \leq x \leq \frac{1}{2}\pi$.

(i) Solve the equation $f(x) + 4 = 0$, giving your answer correct to 1 decimal place. [3]

[illegible]

(ii) Find an expression for $f^{-1}(x)$ and find the domain of f^{-1} . [5]

This image shows a full page of white paper with horizontal dotted lines. The lines are evenly spaced and run across the width of the page, providing a guide for handwriting practice. There are no margins, text, or other markings on the page.

(iii) Sketch, on the same diagram, the graphs of $y = f(x)$ and $y = f^{-1}(x)$.

[3]