

- $$f''(x) = (4x + 1)^{-\frac{1}{2}}.$$

[3]

This image shows a full page of white paper with horizontal dashed lines, typical of primary school writing paper. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

It is now given that  $f''(0)$ ,  $f'(0)$  and  $f(0)$  are the first three terms respectively of an arithmetic progression.

[3]

[illegible]

**(iii)** Find  $f(x)$ , and hence find the minimum value of  $f$ .

[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.