

$$f : x \mapsto x - 4x^{\frac{1}{2}} + 1 \quad \text{for } x \geq 0,$$

$g : x \mapsto mx^2 + n$ for $x \geq -2$, where m and n are constants,

$$h : x \mapsto x^{\frac{1}{2}} - 2 \quad \text{for } x \geq 0.$$

- (a)** Solve the equation $f(x) = 0$, giving your solutions in the form $x = a + b\sqrt{c}$, where a , b and c are integers. [4]

[illegible]

(b) Given that $f(x) \equiv gh(x)$, find the values of m and n .

[4]

This image shows a full page of a handwriting practice worksheet. It consists of multiple sets of three horizontal dotted lines spaced evenly down the page, providing a guide for letter height and placement. The background is plain white, and there are no other markings or text present.