



The diagram shows the curve  $y = (x - 1)^{\frac{1}{2}}$  and points  $A(1, 0)$  and  $B(5, 2)$  lying on the curve.

- (i) Find the equation of the line  $AB$ , giving your answer in the form  $y = mx + c$ . [2]

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- (ii) Find, showing all necessary working, the equation of the tangent to the curve which is parallel to  $AB$ . [5]

[illegible]

A series of ten horizontal dotted lines for writing.

- (iii) Find the perpendicular distance between the line  $AB$  and the tangent parallel to  $AB$ . Give your answer correct to 2 decimal places. [3]

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.