

**10** The curve with equation  $y = x^3 - 2x^2 + 5x$  passes through the origin.

(i) Show that the curve has no stationary points.

[3]

This image shows a full page of white paper with horizontal dashed lines, typical of primary school handwriting practice 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.

(ii) Denoting the gradient of the curve by  $m$ , find the stationary value of  $m$  and determine its nature. [5]

[illegible]

[illegible]

**(iii)** Showing all necessary working, find the area of the region enclosed by the curve, the  $x$ -axis and the line  $x = 6$ . [4]

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