

**9** The equation of a curve is  $y = (3 - 2x)^3 + 24x$ .

(a) Find expressions for  $\frac{dy}{dx}$  and  $\frac{d^2y}{dx^2}$ .

[4]

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.

**(b)** Find the coordinates of each of the stationary points on the curve.

[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.

(c) Determine the nature of each stationary point.

[2]

This image shows a full page of white paper with ten evenly spaced horizontal dotted lines, typical of primary school handwriting practice paper. The lines extend across the entire width of the page, leaving small margins at the top and bottom. There are no other markings, text, or illustrations present.