**Stationary Points**

(a) Find the gradient of the curve

 $y=x^{2}-3x+7$ at the point $(3, 7)$

(b) Find the gradient of the curve

 $y=x^{3}+4x^{2}-9x$ at the point $(2, 6)$

(c) Find the gradient of the curve

 $y=x+\frac{9}{x}$ at the point $(3, 6)$

(a) Find the coordinates of the minimum point on the curve $y=x^{2}-4$

(b) Find the coordinates of the minimum point on the curve $y=x^{2}+8x+15$

(c) Find the coordinates of the maximum point on the curve $y=7-6x-x^{2}$

(d) Find the coordinates of the maximum point on the curve $y=2+5x-x^{2}$

(a) Find the coordinates of the stationary points on the curve $y=x^{3}-3x^{2}+4$. By sketching the graph, determine whether each point is a minimum point or a maximum point.

(b) Find the coordinates of the stationary point on the curve $y=3x+\frac{12}{x^{2}}$. Is this point a minimum point or a maximum point?

(a) The curve with equation

 $y=x^{2}+ax+b$ has a stationary point at $(-4, -11)$. Find the values of $a$ and $b$.

(b) The curve with equation

 $y=c+dx-x^{2}$ has a stationary point at $(3, 10)$. Find the values of $c$ and $d$.

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