**Finding Tangents and Normals**

(a) Find the equation of the tangent to the curve $y=x^{2}+2x-3 $at the point $(1, 0)$.

(b) Find the equation of the tangent to the curve $y=x^{2}+4x-5$ at the point $(-1, -7)$.

(c) Find the equation of the tangent to the curve $y=x^{3}+x $at the point $(2, 10)$.

(a) Find the equation of the normal to the curve $y=x^{2}-4 $at the point $(1, -3)$.

(b) Find the equation of the normal to the curve $y=x^{2}-5x-6$ at the point $(3, -12)$.

(c) Find the equation of the normal to the curve $y=2x^{3}-3x+1 $at the point $(1, 0)$.

(a) Find the equation of the tangent to the curve $y=x^{2}+\frac{1}{x}$ at the point where $x=1$.

(b) Find the equation of the normal to the curve $y=x(x+2)(x-1)$ at the point where $x=2$.

(a) Find the equation of the tangent to the curve $y=3x-x^{2}$ at the point $x=2$.

(b) The tangent crosses the $x$-axis and $y$-axis at A and B respectively. Find the area of the triangle AOB.

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