Question		Answer	Marks	AO	Guidance
5		[Suppose] there is a positive value x for which $x + \frac{4}{x} < 4$ [Then since $x > 0$], $x^2 + 4 < 4x$	B1	2.1	Assumes the opposite of statement to be proved
		$x^2 - 4x + 4 < 0$	M1	1.1	Attempt to rearrange inequality to a quadratic in x or equivalent in y where $x = y^2$. Condone quadratic equation
		$(x-2)^2 < 0$	A1	3.1a	Rearranges to this form
		which is not possible [which is a contradiction] so there is no positive value of x for which $x + \frac{4}{x} < 4$	A1	2.3	Clear statement that $(x-2)^2 < 0$ is not possible and the proof is completed
		Alternative for A1A1 Discriminant for $x^2 - 4x + 4 = 0$ is $16 - 16 = 0$ So equation has one root	A1		Soi by sketch or similar
		$x^2 - 4x + 4 = 0$ when $x = 2$ and is positive for all other values of x [which is a contradiction] so there is no positive value of x for which $x + \frac{4}{x} < 4$	A1		Clear statement that the quadratic expression is never negative from correct discriminant and the proof is completed
			[4]		