

Question	Scheme	Marks	AOs
13	<p>Assumption:</p> <p>There exists positive integers a and b such that $a + 2b = \sqrt{8ab}$ and a is odd</p>	B1	2.1
	$a + 2b = \sqrt{8ab} \Rightarrow a^2 + 4ab + 4b^2 = 8ab$ $\Rightarrow a^2 - 4ab + 4b^2 = 0$	M1	1.1b
	<p>Solving $\Rightarrow (a - 2b)^2 = 0 \Rightarrow a = 2b$</p>	A1	3.1a
	<p>This forms a contradiction as $a = 2b$ means that a is even (since b is an integer).</p> <p>Hence the assumption is false and so the given statement is true</p>	A1	2.4
		(4)	