

Q	Marking instructions	AO	Mark	Typical solution
6(a)	States an appropriate even Pythagorean triple	2.2a	B1	$a = 6$ $b = 8$ $c = 10$
6(b)	Begins an appropriate method of proof assuming at least two sides are odd eg states 'assume $a, b$ odd' or defines $a, b$ (or $c$ ) algebraically with different unknowns	3.1a	B1	<p>Assume <math>a</math> and <math>b</math> are odd so <math>a = 2m + 1</math> and <math>b = 2n + 1</math></p> $(2m + 1)^2 + (2n + 1)^2$ $= 4m^2 + 4m + 1 + 4n^2 + 4n + 1$ $= 2(2m^2 + 2m + 2n^2 + 2n + 1)$
	Uses Pythagoras' theorem with at least two odd sides either in words or algebraically	1.1a	M1	<p>which is even, so <math>c^2</math> is even, so <math>c</math> is even. Therefore it is not possible for all three to be odd.</p>
	Completes rigorous argument to prove the required result <b>CSO</b>	2.1	R1	
	<b>Total</b>		<b>4</b>	