Question			Answer	Marks	AO	Guidance
12			Assume there is a prime number p which is one less than a square number	**M1***	**2.1**	Setting up proof by contradiction
			$p = n^2 - 1$ for some positive integer $n \geq 2$			
			$p = (n-1)(n+1)$	**M1***	**2.1**	factorising
			If $n = 2$ $p = 1 \times 3 = 3$ which is prime	**E1**	**2.1**	Considers the possibility that one factor might be 1
			[$p = 2$ is not 1 less than a square number]			
			If $n > 2$ then p has two [proper] factors			
			so is not prime which is a contradiction. So there are no prime numbers other than 3 which are 1 less than a square number	**E1 (dep)**	**2.1**	Condone missing reference to n = 2 (or $p = 3$) for this step. Conclusion must be clear. Allow SC1 where M1M0 or M0M0 has been awarded and $3 = 2^2 - 1$ is established
				[4]		