

Q	Marking Instructions	AO	Marks	Typical solution
7	Investigates last digit of n . Allow M1 for investigation of $2k + 1$	AO3.1a	M1	Last digit of n determines last digit of n^4
	Deduces that only need to investigate numbers ending in 1, 3, 7, 9 Condone inclusion of 5 at this stage	AO2.2a	M1	All even numbers divide by 2, so are not prime Any number ending in 5 is a multiple of 5 so is not prime Primes > 5 end in 1, 3, 7 or 9
	Considers each in turn to show that n^4 will end in a 1	AO1.1a	M1	If n ends in 1, 1^4 is 1 so n^4 ends in a 1 If n ends in 3, 3^4 is 81 so n^4 ends in a 1
	Provides evidence that $1^4, 3^4, 7^4, 9^4$ all end in a 1	AO1.1b	A1	If n ends in 7, 7^4 is 2401 so n^4 ends in a 1 If n ends in 9, 9^4 is 6561 so n^4 ends in a 1
	Constructs rigorous mathematical argument to show the required result Only award if they have a completely correct solution, which is clear, easy to follow and contains no slips. Must include clear statement that final digit of n determines final digit of n^4	AO2.1	R1	Statement proved by exhaustion
	Total		5	