

# Topic Test 1 Mark Scheme

## Numerical methods - Higher

Q	Answer	Mark	Comments
1	Bracketing the answer between 4 (72) and 5 (135) with correct calculations	B1	
	Bracketing the answer between 4.3 (88.107) and 4.4 (93.984) with correct calculations given to at least the nearest whole number	B1	
	Testing 4.35 (91....) with answer to at least nearest whole number	B1	
	Stating answer as 4.3	B1	
2	Testing 6 and getting answer of 240	B1	
	Bracketing the answer between 6.2 (263.128) and 6.3 (275.247) with correct calculations given to at least the nearest whole number	B1	
	Testing 6.25 (269....) with answer to at least nearest whole number	B1	
	Stating answer as 6.3	B1	
3(a)(i)	$u_2 = 3.4641$ $u_3 = 3.5956$	B2	B1 each
3(a)(ii)	3.646	B1	
3(b)(i)	$u_2 = -1.4142$ $u_3 = -1.7809$	B2	B1 each
3(b)(ii)	-1.646	B1	
3(c)	3.646 and -1.646	B1	

Q	Answer	Mark	Comments
4	$u_2 = \frac{\sqrt{5}}{2} \text{ or } 1.1180$ $u_3 = 1.2663$ $u_4 = 1.2372$ $x = 1.242$	B3	B2 for 2 of $u_2$ , $u_3$ or $u_4$ <b>and</b> $x$ B1 for $x$
5(a)	1.89	B1	
5(b)	$1.89^4 - 1.89^3 - 6$ $= 0.00862941$	B1	