2	**(a)**		$= -48384$ or -48400	**B1** **[1]**	**1.1**	Allow $-48384x^5$	
2	**(b)**	**(i)**	$1 + 0.5\times 3x + \dfrac{0.5\times(-0.5)}{2}\times(3x)^2$ $+ \dfrac{0.5\times(-0.5)(-1.5)}{3!}\times(3x)^3$	**M1**	**1.1a**	M1 for at least 3 terms correct Condone any missing brackets	SC $1+\frac{3}{2}x-\frac{3}{8}x^2+\frac{3}{16}x^3$: M1
			$= 1 + \frac{3}{2}x - \frac{9}{8}x^2 + \frac{27}{16}x^3$	**A1**	**1.1**	A1 for 3 terms correct	
			or $1 + 1.5x - 1.125x^2 + 1.6875x^3$	**A1** **[3]**	**1.1**	A1 for all correct	
2	**(b)**	**(ii)**	$-\frac{1}{3} < x < \frac{1}{3}$	**B1** **[1]**	**1.2**	Allow $\lvert x\rvert < \frac{1}{3}$	
2	**(b)**	**(iii)**	Sub $x = 0.01$ in their expansion	**M1**	**3.1a**		Other correct methods may be seen, eg subst $x = 0.2$ & $\sqrt{1.6}$
			gives $\sqrt{1.03} = 1.014889\ldots$	**A1**	**1.1**	Allow 1.01489 here (5 dps for series)	
			From series $\sqrt{103} = 10.14889(188\ldots)$			If no working seen, 10.1488919 or better must be seen as evidence that series has been used.	
			From calculator $\sqrt{103} = 10.14889(157\ldots)$ (Hence expansion may be correct)	**A1** **[3]**	**2.2b**	Both these must be seen for A1 Allow without statement	5dps for $\sqrt{103}$ in both